Enhanced Medical Control in the Prehospital Triage of Patients with a Suspected Large Vessel Occlusion

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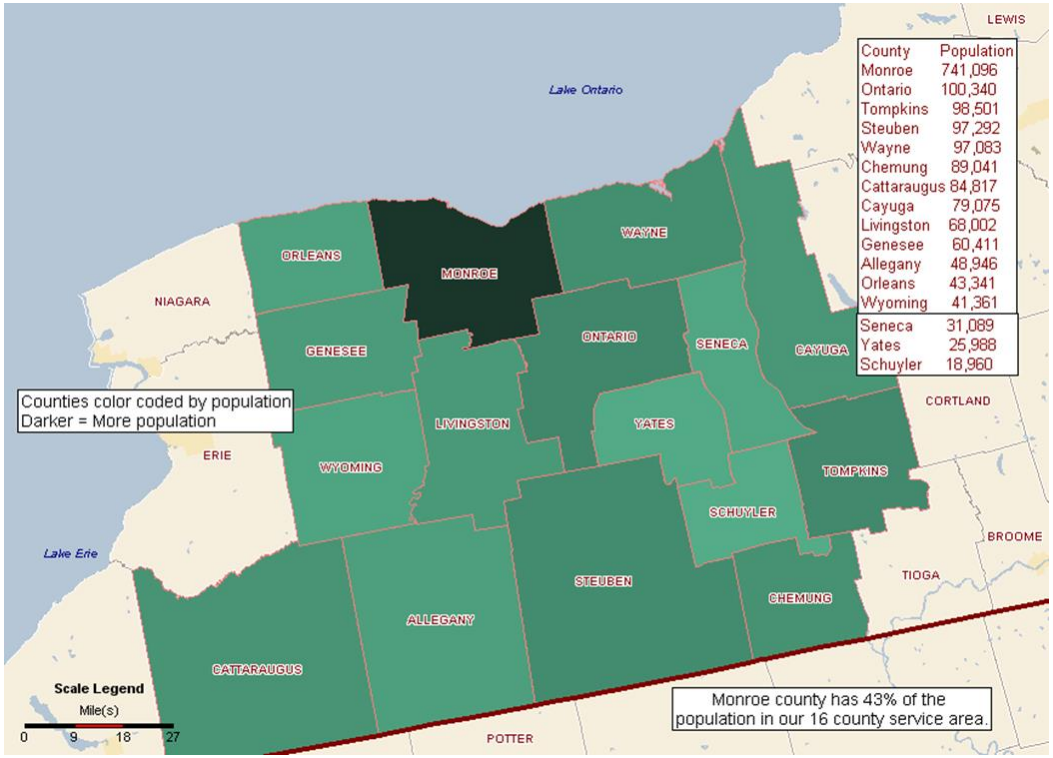
Stroke System of Care

- Daughter who called 911
- EMS dispatcher
- EMT
- Paramedic
- Medical control
- Communications nurse
- Triage nurse
- Emergency Medicine physician
- EM nurses
- Neurologist
- Pharmacist
- CT technologist
- Radiology nurse
- Radiologist
- Neurosurgeon
- Transport tech
- OR tech
- OR nurse
- Anesthesiologist
- PACU nurses



AHA/ASA Guideline

2015 American Heart Association/American Stroke Association Focused Update of the 2013 Guidelines for the Early Management of Patients With Acute Ischemic Stroke Regarding Endovascular Treatment

A Guideline for Healthcare Professionals From the American Heart Association/American Stroke Association

Prehospital scales

Telestroke

Mobile stroke units

Default diversion to comprehensive care centers

Controversies in Stroke

Section Editors: Carlos A. Molina, MD, PhD, and Magdy H. Selim, MD, PhD

Suspected Large Vessel Occlusion

Should Emergency Medical Services Transport to the Nearest Primary Stroke Center or Bypass to a Comprehensive Stroke Center With Endovascular Capabilities?

Andrew M. Southerland, MD, MSc; Karen C. Johnston, MD, MSc;
Carlos A. Molina, MD, PhD; Magdy H. Selim, MD, PhD; Noreen Kamal, MD; Mayank Goyal, MD

Upstate "Brainstorming" (literally)

Establishing Recommendations for Stroke Systems in the Thrombectomy Era

The Upstate New York Stakeholder Proceedings

Zainab Magdon-Ismail, DrPH; Curtis Benesch, MD; Jeremy T. Cushman, MD, MS; Ian Brissette, PhD; Andrew M. Southerland, MD, MSc; Ethan S. Brandler, MD, MPH; Cemal B. Sozener, MD, MEng; Sue Flor, BS; Roseanne Hemmitt, BA; Kathleen Wales, BS; Krystal Parrigan, MS, HSA; Steven R. Levine, MD; on behalf of the Upstate New York Stroke Work Groups

Enhancing Medical Control:

High impact and high feasibility

G-FAST Prehospital Scale

- Cincinnati Prehospital Stroke Scale (CPSS)
  - Facial weakness
  - Arm weakness
  - Speech abnormality
  - Time

+

- Gaze preference

Four-fold increase in OR of LVO

Role of Enhanced Medical Control

- All 3 elements of CPSS positive ✓
- Gaze preference present ✓
- Transport to CSC < 30 min ✓
- Diversion does not preclude tPA Rx ✓

EMC to divert EMS to nearest comprehensive stroke center

Study Aims

1) Determine the feasibility of the enhanced Medical Control Algorithm

2) Determine the accuracy of this algorithm in the triage of LVO

2 large health care systems

8 hospitals

2 CSCs/endovascular-capable centers

> 100 EMS agencies

Strengths of the Study

FAST:

CPSS is widely utilized—the addition of gaze preference testing utilizes skill of Medical Control with little extra burden for EMS

COLLABORATIVE:

Bridges two large health care systems

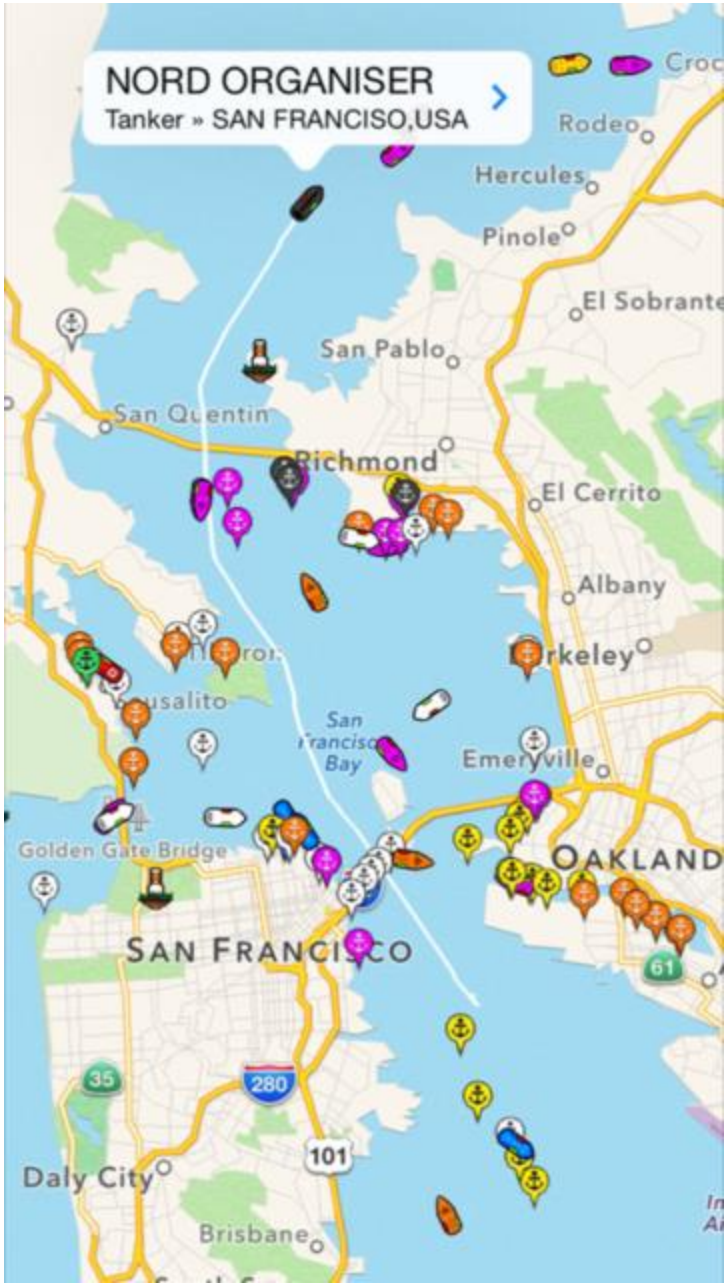
FEASIBLE:

More efficient to train Medical Control providers than a large group of EMS personnel

EFFECTIVE:

If G-FAST positive, predictive value for LVO increases 4-fold over CPSS alone

Low-cost solution with high-impact potential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El Sobrante
San Pablo
San Quentin
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El Cerrito
Albany
Berkeley
Sausalito
San Francisco Bay
Emeryville
Golden Gate Bridge
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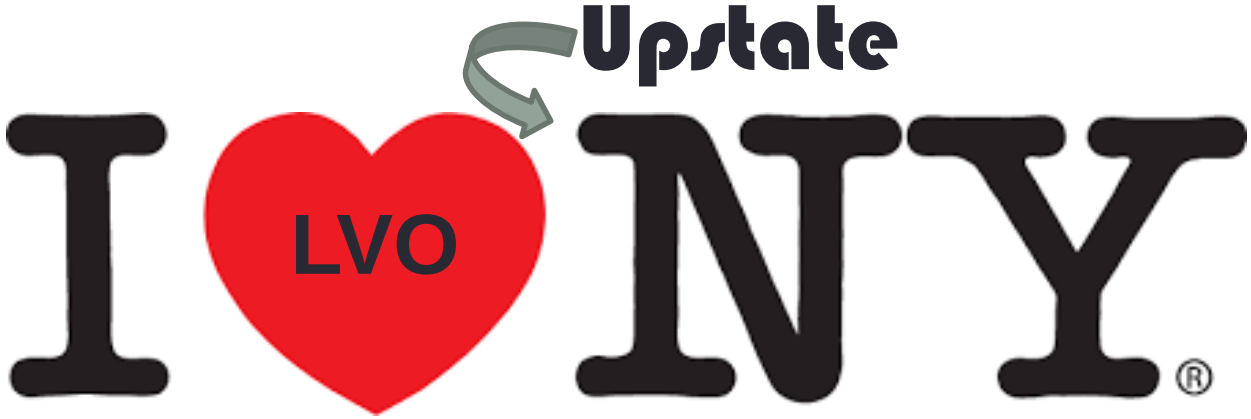
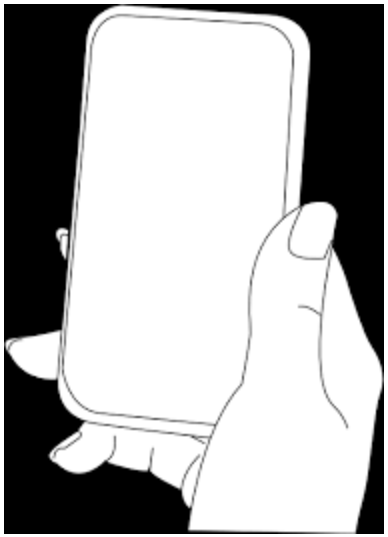


EMS:
Age, sex, LKW, CPSS, anticoagulation

Medical control:
Gaze preference, comorbidities, stroke center readiness

Additional variables:
GPS location of ambulance, weather conditions, thrombolytic eligibility based on age, time from LKW, time to stroke centers, clinical features (last INR in EMR)

Smartphone App



Optimal Stroke Treatment Destination

Stroke. 2017;48:1278-1284