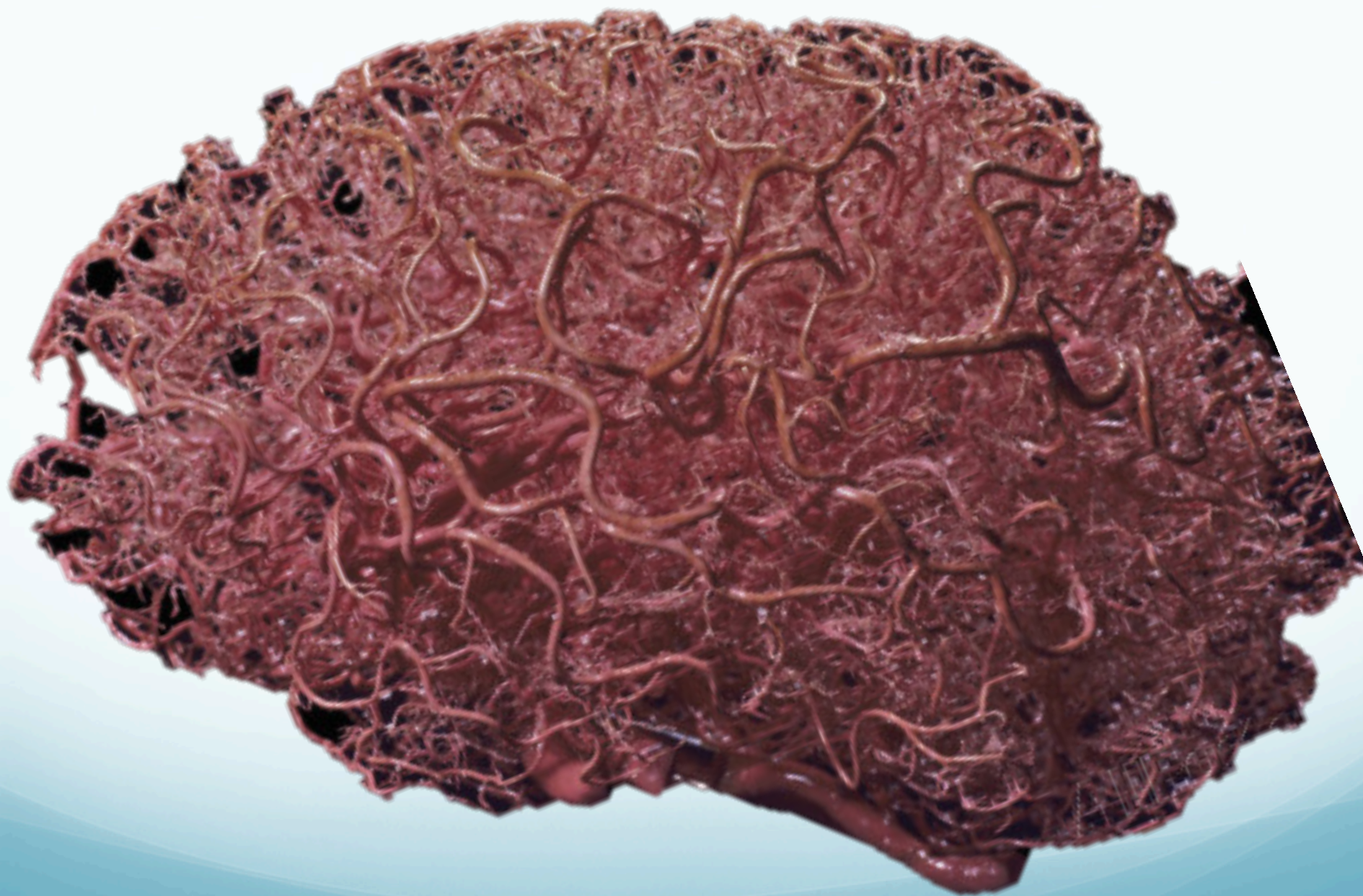




911 Dispatch initiated Stroke Assessment-

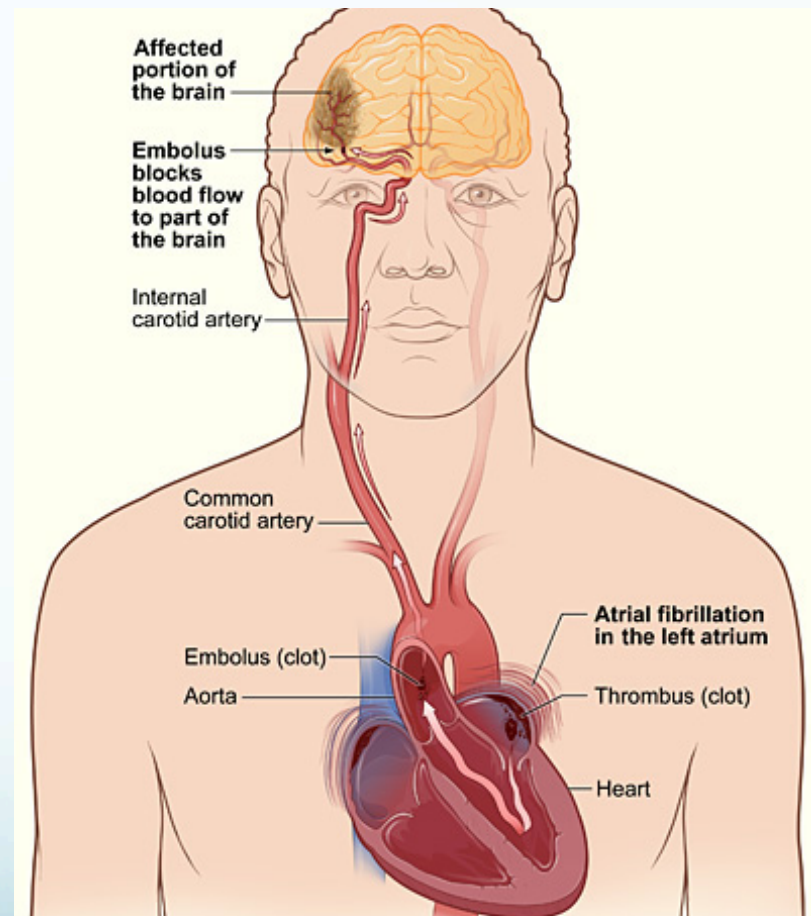
**Decreasing time to treatment at Stroke
Centers**

David Miramontes MD FACEP NREMT
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Office of the Medical Director



Stroke

- Embolic Strokes are caused by clot or debris going to the vessels of the brain.
- Fast treatment with TPA, a “clot buster”... **MAY** restore blood flow and reverse deficits
- TPA is most effective within 3 to 4.5 hrs. after onset of symptoms
- Hospital arrival to TPA drug delivery goal is 60 mins. or less



Goal of project

- Rapid Stroke Screening by 911 Paramedic Dispatchers
- Alerts to responding crews
- Rapid On scene FAST assessment
- Hospital Stroke Alert Notification From Scene
- Rapid Load-Less than 10 minute transport unit on scene time.
- Do what you can enroute



This patient has left sided facial droop

911 Call



- If Stroke Symptoms—Shunt to Card 28-Stroke Card Units are Dispatched-
- Tell me why you think it's a Stroke ?
- The Paramedic Dispatchers will interrogate caller or patient to do a version of a FAST Stroke Assessment
 - Face- Was the smile equal on both sides?
 - Arm- Raise both arms above his/her head?
 - Speech- Say "The early bird catches the worm"
---Any slurred or Garbled speech?
 - Time- What Time did these symptoms Start
 - History Ever had a Stroke before ?

Stroke Diagnostic

1. We need to do a **quick test** on her/him for the medics **before** they arrive. I want you to get **close enough** to ask her/him to do **three things**. **Tell me** when you're **ready**.
2. **(Ready)** Ask her/him to **smile**.
 - a. **(Wait)** Was the smile **equal** on **both sides** of her/his mouth?

Normal smile _____	0
Slight difference in smile (possible difference) _____	1
Only one side of mouth or face shows a smile (obvious difference) _____	3
Cannot complete request at all	
3. Ask her/him to **raise both arms above her/his head**.
 - a. **(Wait)** What was s/he **able to do**?

Both arms raised equally _____	0
One arm higher than other (both raised, but unequally) _____	1
Only one arm raised _____	3
Cannot complete request at all	
4. Ask her/him to **say**, "The early bird catches the worm."
 - a. **(Wait)** Was s/he able to **repeat it correctly**?
 - i. **(Clarify)** Was it **slurred, garbled, or not understandable**?

Said correctly _____	0
Slurred speech _____	3
Garbled or not understandable speech _____	3
Cannot complete request at all	

* Consider **notification** of the appropriate **Stroke Center** for patients with **clear, strong, or partial** evidence of stroke.

FORMULA FOR DETERMINING WEIGHTED EVIDENCE OF STROKE

* Add up the scores that are assigned to each answer in the **SCORE** column:

≥ 3 = **Clear evidence of stroke**
 2 = **Strong evidence of stroke**
 1 = **Partial evidence of stroke**
 0 = **No test evidence of stroke**

STROKE Dx

Responder Messaging

- If Stroke score is greater than 2...
- Dispatch will message responding units:
“Dispatch has confirmed Positive Stroke Score- Initiate rapid assessment, Stroke Center Notification & rapid transit if Stroke Alert Criteria are met”
- Message by MDT notification and verbal script from District Dispatcher
- This should prompt responding units to quickly act to assess the patient for signs of Stroke and check a blood sugar upon arrival.

First On Scene

- Safe scene
- Assess ABCD's Vitals
- FAST Stroke Assessment
- Get a Blood Sugar
- Oxygen only if Pulse Ox <94%
- Nothing By Mouth
- Plan for rapid extrication
- Last Known Well time=

Less than 6 hrs?

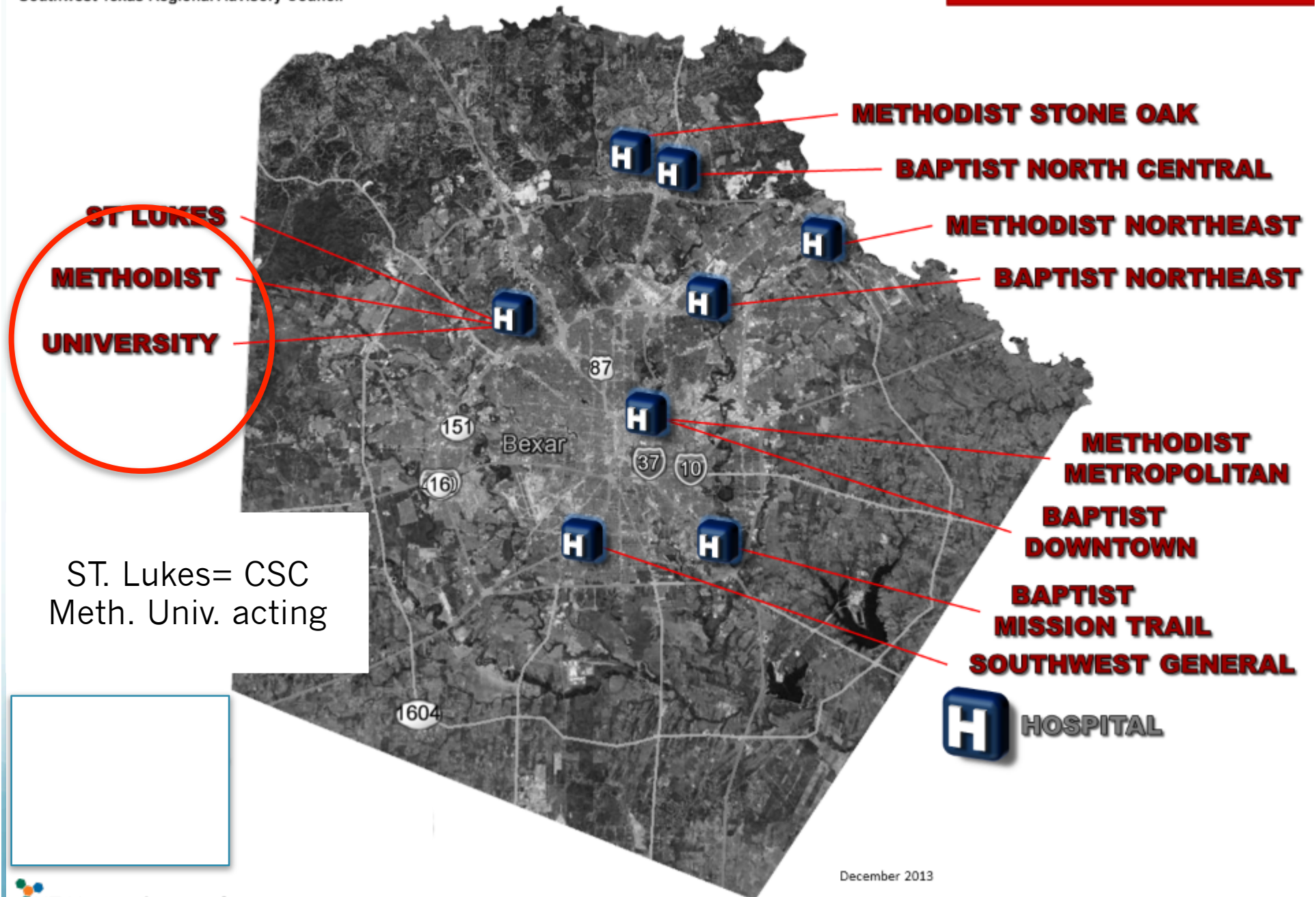


Medic Unit



- **Bring stretcher toward the patient on arrival.**
- **Get Report from Fire Crew**
- **Confirm Blood Glucose**
- **FAST Exam**
- **Declare Stroke Alert and call receiving Stroke Center with brief radio report**
- **Load patient and do IV, EKG and other treatments enroute !!**
- **Platinum 10 Minutes on scene !!!**

“ACME General, Medic 24 has a Stroke Alert...onset at 1530 hrs. eta is 12 minutes”



December 2013

Hospital Responsibilities

Upon a Stroke Alert Notification from Scene:

1. Notify CT Staff of incoming Stroke patient
2. Ensure ED nursing staff are prepared to start checklist
3. Medics will do a Brief safety stop on way to CT with Quick registration
4. Direct to CT on EMS Stretcher
5. Nurse to take MIST EMS Timeout report and assume care of patient in CT

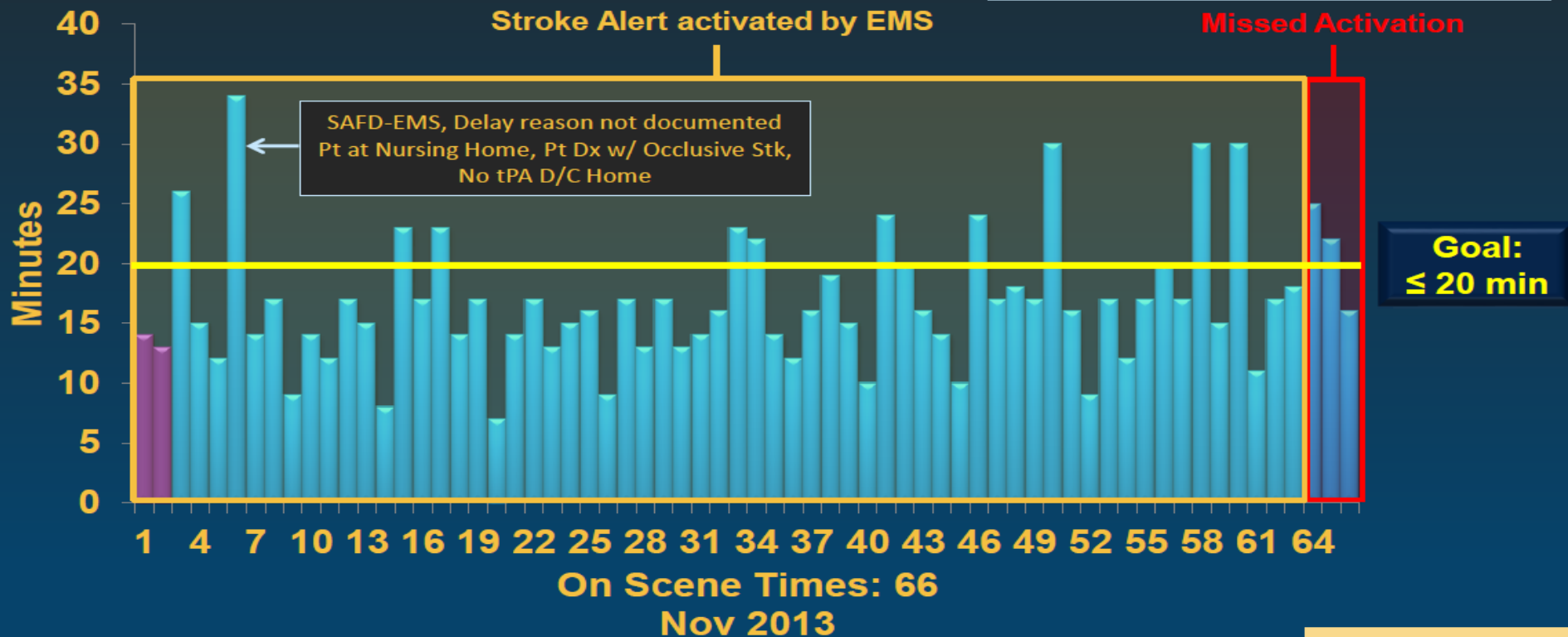


*Activase must be administered within 3 hours of symptom onset.

On Scene Times

(From the time EMS either arrives on scene or are at pt side to the time they begin transport)

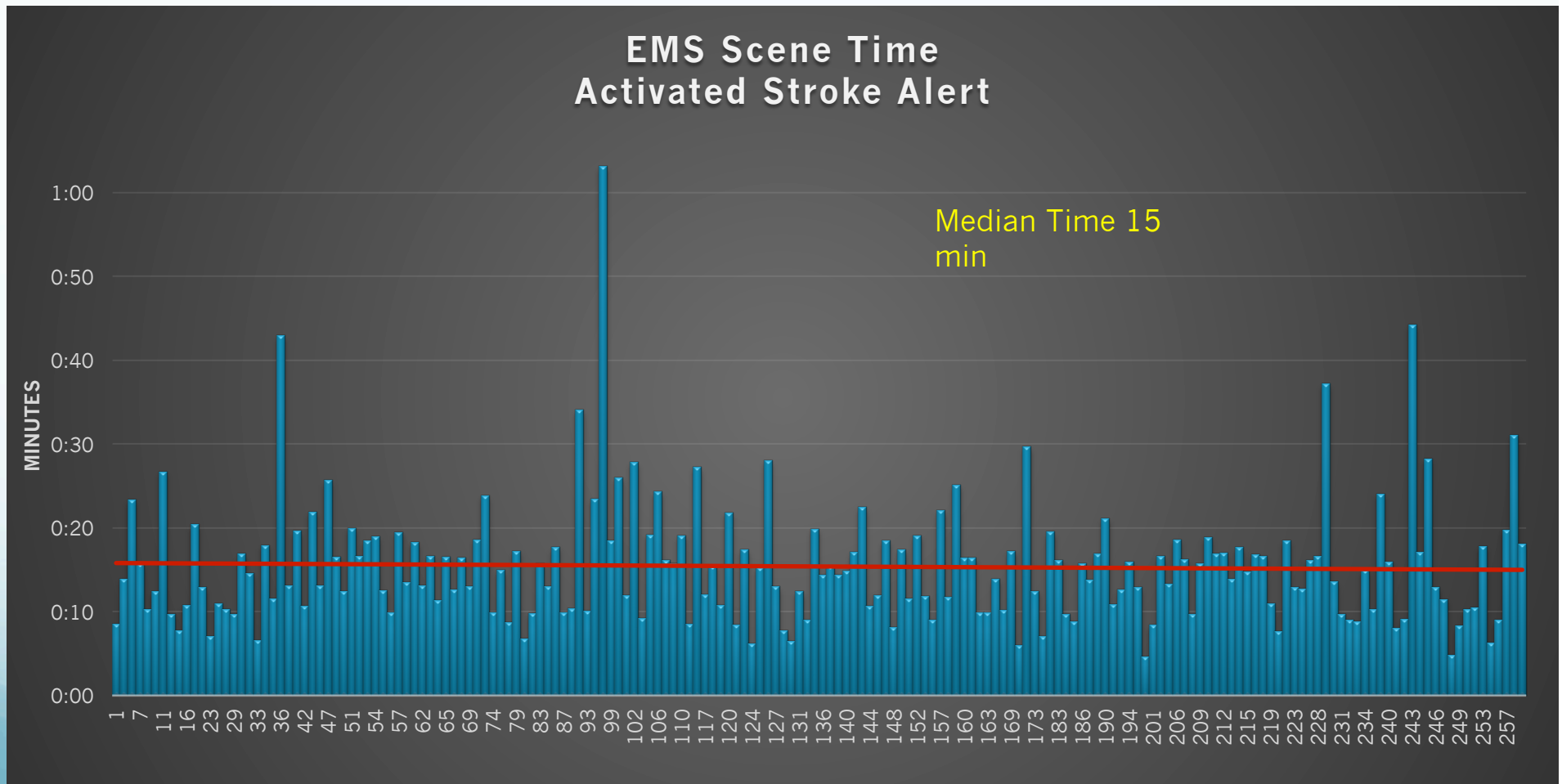
Goal Met: 80%
Median Scene Time: 16 min



These numbers represent only the data collected and may not represent all stroke patients throughout the STRAC region

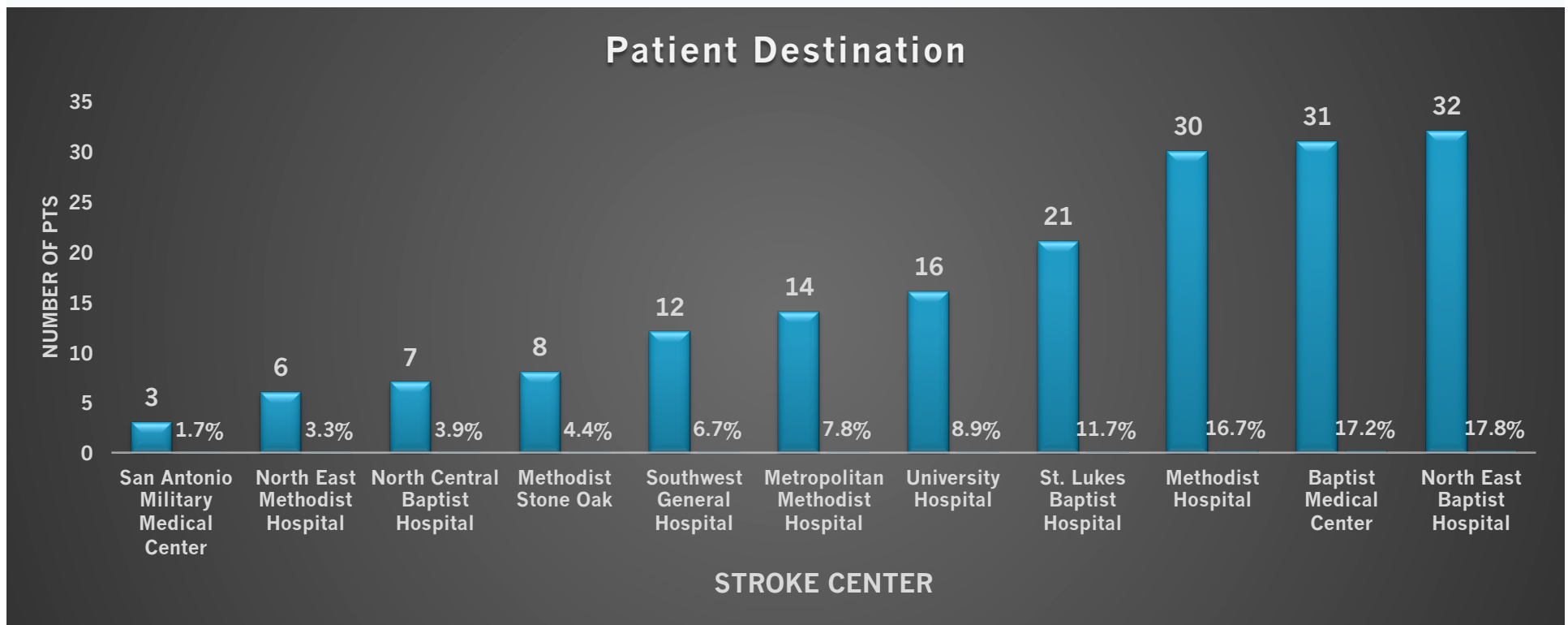
Purple = Rotor
Blue = Ground

SAFD Stroke Alert Time Scene 2016

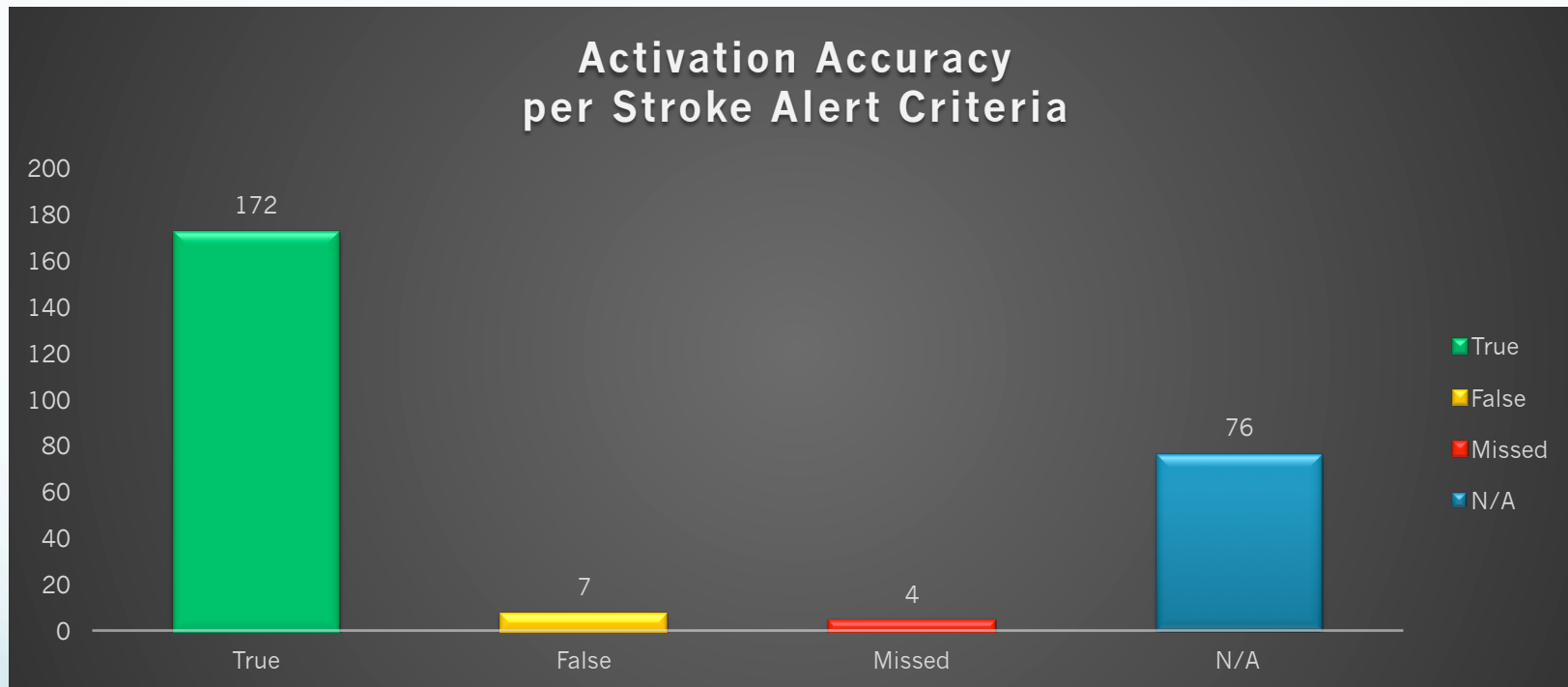


land.....

Nov Dec 2015 Jan 2016



Accuracy of Activation – EMS Chart Review



Only 65% of all 911 Stroke Calls had complete ProQa documentation

Atypical Presentations

- Rapid onset severe vertigo-(unable to stand or **balance**)
- Acute onset of *blindness* in one or both **eyes**
- Sudden onset confusion or understanding
- Sudden severe Headache (+Bleed not often Stroke)
- Post-Ictal state after a seizure can mimic a STROKE.. Call it out !
- Triage all patients to a Stroke Center for initial evaluation and possible TPA administration.

Is it Really a Stroke?

If someone has one or more of these stroke symptoms, call 911 immediately:

B

Balance – Is there a sudden loss of balance or coordination?

E

Eyes – Is there persistent blurred vision and/or sudden trouble seeing?

F

Face – Ask the person to smile. Is one or both sides of the face drooping?

A

Arms – Ask the person to raise both arms. Does one side drift downward? What about weakness or numbness on one side?

S

Speech – Does the person have slurred or garbled speech? Can he/she repeat a simple phrase?

T

Time – Call 911, get medical help immediately. Also, take note of when symptoms began.

Our Advanced Comprehensive Stroke Center is available 24/7 to provide leading-edge care.

RACE Score

- Facial Palsy **0-2**
- Arm Motor Function **0-2**
- Leg Motor Function **0-2**
- Head-Gaze Deviation **0-2**

If Right side deficit-

- Aphasia and Obey command **0-2**

If Left Side Deficit

- Agnosia-(Process info)
- Raise and Clap Hands to command

0-2

Stroke score > 1

Large Vessel Stroke >5=

.....Transport to Comp. Stroke center

Emergent Large Vessel Occlusion (ELVO)

The new way

- M37 DISPATCHED FOR SICK PERSON. PRIOR TO ARRIVAL, CONTACTED BY E19 THAT 60 Y/O PT PRESENTED WITH POSITIVE CINCINNATI. UPON ARRIVAL, GREETED BY E19 ROLLING PT OUT TO MICU AND ONTO STRETCHER. PT IS A&Ox4, TALKING WITH SLURRED SPEECH. CARETAKER STATES THEY WERE HAVING BREAKFAST WHEN PT STARTED TO ACT UNUSUAL WITH SLURRED SPEECH. PT POSITIVE x3 CINCINNATI.

Final words

- **BE FAST**
- **Platinum Ten minutes** for EMS on scene
- **Rapid Assessment** for Stroke Alert Criteria
- **CALL STROKE CENTER** early while Loading patient.
- Do IV/ EKG and other procedures en route
- **Hospital has a Golden Hour** to give TPA upon arrival



Thank You



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