



Brain Docs Making “House Calls”

Gathering of Eagles XVIII

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- * 63 Square miles
- * Population ~330,000 (nighttime) ~550,000 (daytime)
- * 10-12 ambulances
- * ~75,000 calls per year
- * 1 Comprehensive Stroke Center
- * 4 Primary Stroke Centers



We Cannot All Afford One of These

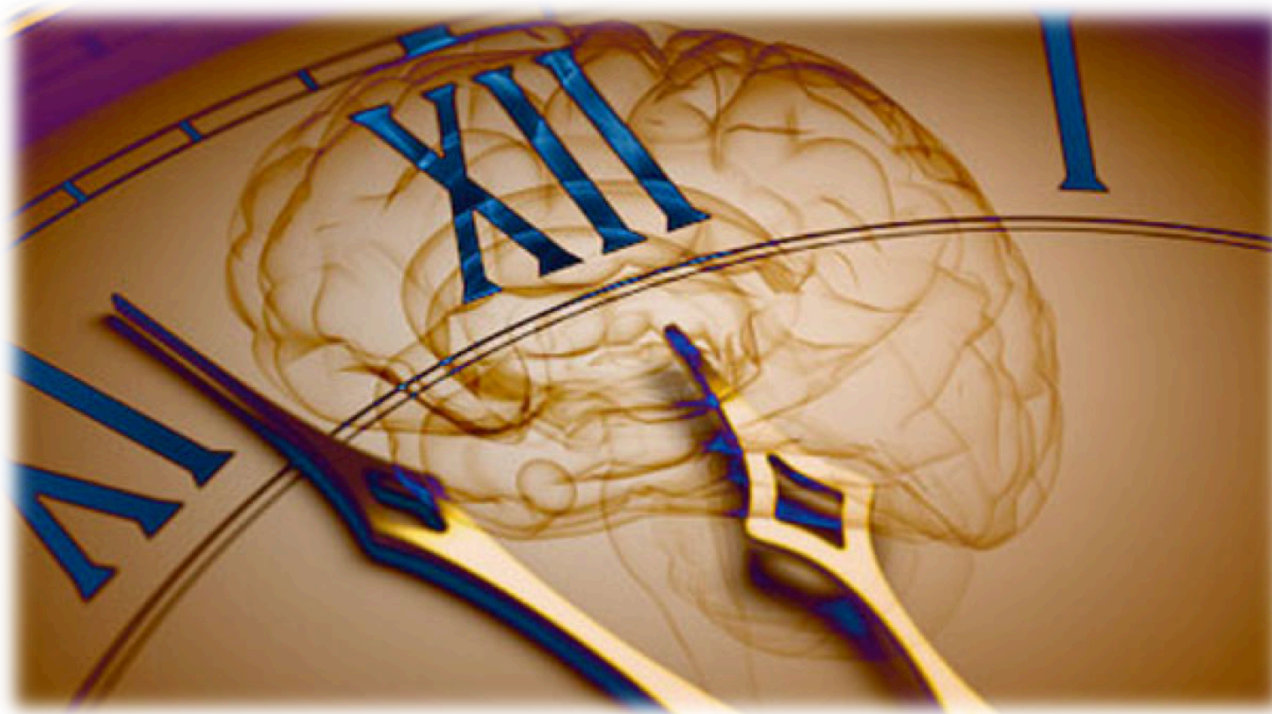




Stroke Inducing Vehicle



Time is Brain



Stroke Chain of Survival

DETECTION	Recognition of stroke signs and symptoms
DISPATCH	Call 9-1-1 and priority emergency medical services dispatch
DELIVERY	Prompt transport and prehospital notification to hospital
DOOR	Immediate emergency department (ED) triage
DATA	ED evaluation, prompt laboratory studies, and computed tomography imaging
DECISION	Diagnosis and decision about appropriate therapy
DRUG	Administration of appropriate drugs or other interventions

Source: The American Heart Association. The links in the chain of survival [online]. [cited 2008 Feb 20]. Available from Internet: <http://www.americanheart.org/presenter.jhtml?identifier=3012016>.



rTPA Exclusion Criteria (3 Hour Window)

- * Significant head trauma or prior stroke in previous 3 months
- * Symptoms suggest subarachnoid hemorrhage
- * Arterial puncture at noncompressible site in previous 7 days
- * History of previous intracranial hemorrhage
- * Intracranial neoplasm, arteriovenous malformation, or aneurysm
- * Recent intracranial or intraspinal surgery
- * Elevated blood pressure (SBP > 185 mm Hg or DBP > 110 mm Hg)
- * Active internal bleeding
- * Acute bleeding diathesis
 - ▶ Platelet count less than $<100,000/\text{mm}^3$
 - ▶ Heparin received within 48 hours, resulting in abnormally elevated aPTT greater than the upper limit of normal
 - ▶ Current use of anticoagulant with INR > 1.7 or PT > 15 seconds
 - ▶ Current use of direct thrombin inhibitors or direct factor Xa inhibitors with elevated sensitivity laboratory tests
 - ▶ Blood glucose concentration < 50 mg/dL
 - ▶ CT demonstrates multilobar infarction (hypodensity > 1/3 cerebral hemisphere)



rTPA Relative Exclusion Criteria (3 Hour Window)

- * Only minor or rapidly improving stroke symptoms (clearing spontaneously)
- * Pregnancy
- * Seizure at onset with postictal residual neurological impairments
- * Major surgery or serious trauma within previous 14 days
- * Recent gastrointestinal or urinary tract hemorrhage (within previous 21 days)
- * Recent acute myocardial infarction (within previous 3 months)



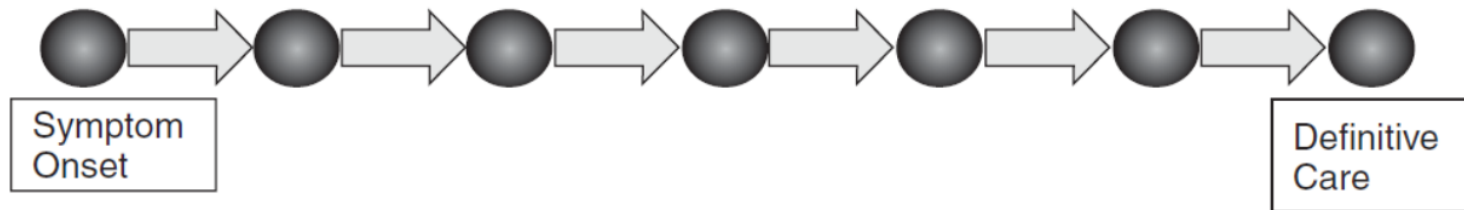
rTPA Relative Exclusion Criteria (4.5 Hour Extended Window)

- * Aged > 80 years
- * Severe Stroke (NIHSS>25)
- * Taking an oral anticoagulant regardless of INR
- * History of both diabetes and prior stroke

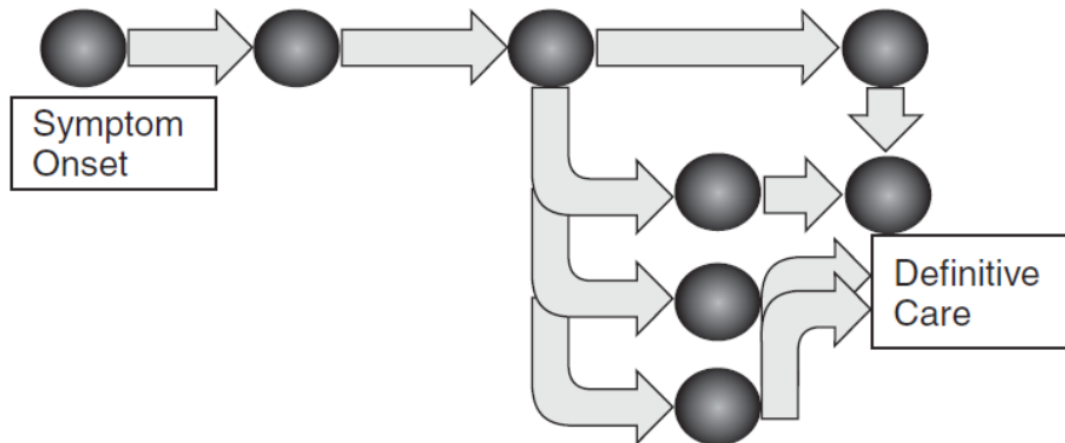


If You Want to Change the System...

Sequential Process:



Simultaneous Process:





Recognition and
activation of the
emergency
response system

Immediate
high-quality CPR

Rapid
defibrillation

Basic and advanced
emergency
medical services

Advanced life
support and
postarrest care





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Barnes-Jewish Hospital Stroke Card

Stroke & Cerebrovascular



NATIONAL LEADERS IN MEDICINE

WE NEED YOUR HELP
Please call 314-362- 9123



Your friend or loved one may be having a stroke and is being taken to the Barnes-Jewish Hospital Emergency Room.

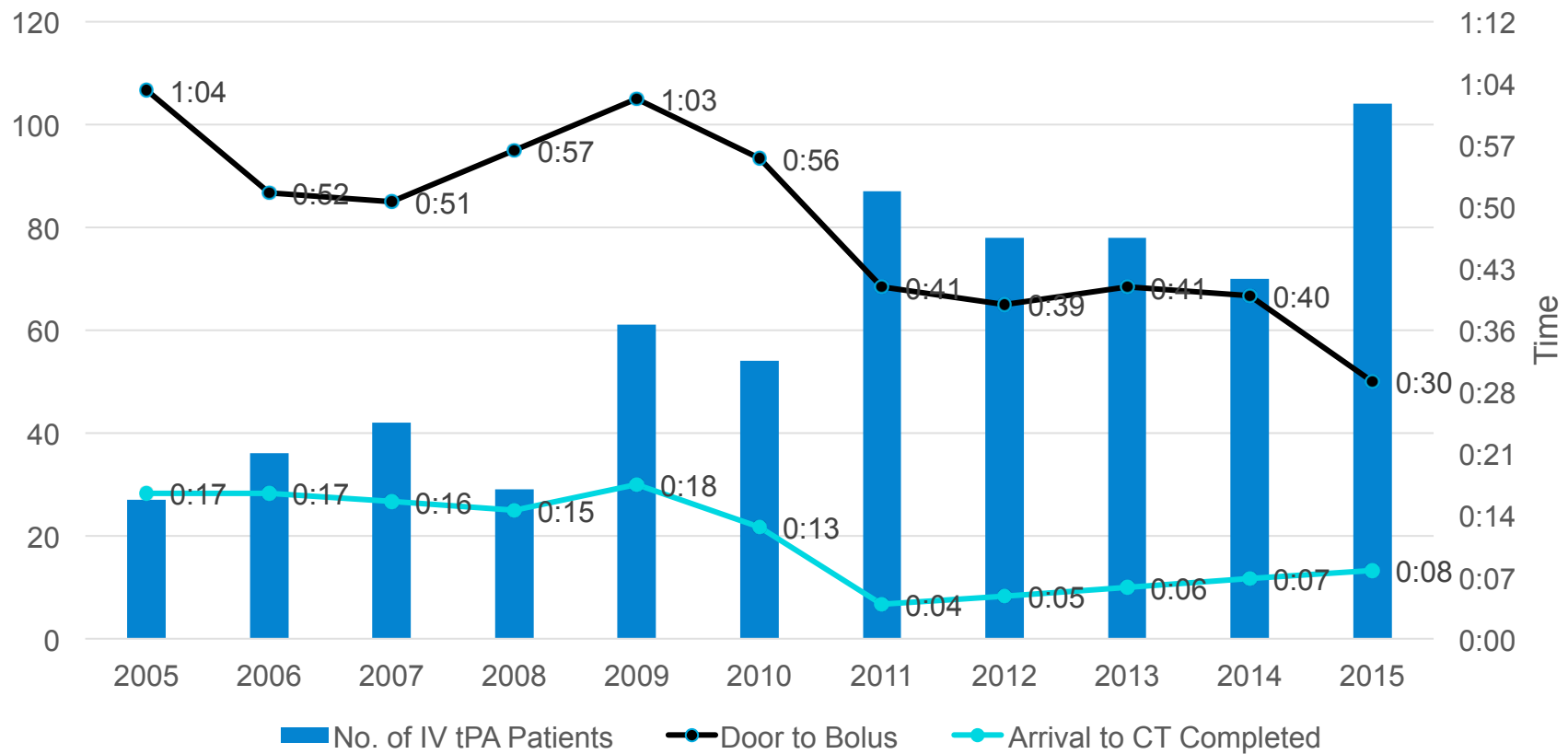
When the operator answers, please say "Hello, I am calling with an **ambulance stroke card**. May I speak to the stroke doctor?"

A Washington University stroke specialist will assist you.



The Effect of a Stroke Card

BJH ED IV tPA Patient Yearly Summary



Challenges

- * Not all hospitals have set this up (yet)
- * Providers giving the stroke card to everyone
 - ▶ Witness calling Barnes Jewish Hospital but transporting to another stroke hospital
- * Providers forgetting to use the stroke card
 - ▶ Placed in pouch with glucometer
- * Change in the phone number at Barnes Jewish Hospital
- * Stroke Cards provided through grant funding
- * What about large vessel occlusion?



Questions?



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