Developing a successful stroke treatment program…
What's your door to treatment time?

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What is needed for effective stroke treatment program?

- **Stroke Team**

- **Integrated ER response system**

- **24hr Radiology/Lab/Cardiac testing**

- **Standard Protocols**

- **Designated patient care staff/unit**

- **Administrative Support/Medical Director**

- **Multidisciplinary Team**

- **Continuing Education**

In a typical acute ischemic stroke, every minute the brain loses….

- 1.9 million neurons
- 14 billion synapses
- 7.5 miles of myelinated fibers

» Saver, Stroke 2006

Acute Stroke ER Facilitation

- **EMS pre-hospital notification**

- **Triage**

- **Clinical/Physical Exam**

- **Imaging**

- **Evaluation for thrombolysis**

- **Initiation of Thrombolysis**

- **Protection of brain perfusion**

IV tPA

- **<3hr from symptom onset**

- **Meets inclusion criteria**

- **No exclusion criteria**

- **0.9mg/kg with max dose of 90mg**

- **10% bolus over 1 min and remaining dose over next 60 min**

Contraindications for IV tPA

Table 1. Main Contraindications to Intravenous Thrombolysis in Patients with Acute Ischemic Stroke.*

Onset of symptoms >3 hr before start of treatment

Intracranial hemorrhage on CT or MRI

Head trauma or stroke in previous 3 mo

Myocardial infarction in previous 3 mo

Gastrointestinal or urinary tract hemorrhage in previous 21 days

Major surgery in previous 14 days

History of intracranial hemorrhage

Systolic blood pressure ≥185 mm Hg or diastolic blood pressure ≥110 mm Hg

Evidence of active bleeding or acute trauma on examination

Use of oral anticoagulants and an INR ≥1.7

Use of heparin in previous 48 hr and a currently prolonged aPTT

Platelet count <100,000 per cubic millimeter

Blood glucose level <50 mg/dl (2.7 mmol/liter)

Seizure with postictal residual neurologic impairments

* Adapted from Adams et al.,[8] which provides a more complete overview of indications and contraindications. INR denotes international normalized ratio, and aPTT activated partial-thromboplastin time.

Case Review

- **79yr female symptom onset 18:00**

- **Arrived in ER 18:39**

- **Labs, EKG, Foley 18:45**

- **Seen by stroke NP/Physician 18:48**

- **CT/CTA/CTP 18:54**
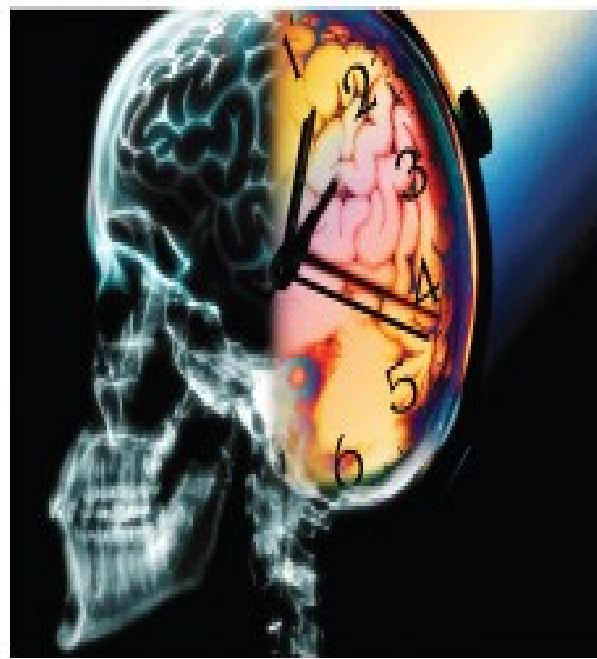
- **CT reading 19:06**

IV tPA

- **tPA Infusion started 19:35**
- **tPA Infusion completed 20:35**
- **No major bleeding episodes and no ICH on 24hr post CT**

- **Pt was nearly at baseline at 24hr with only mild word finding difficulties.**