Emergent Stroke Management
Community and Tertiary Center Roles
Community-Based

- Is this a stroke?
- When did it start?
- Ischemic or hemorrhagic?
- Should tPA be offered?

Tertiary Center

- IA Recanalization
- MRI selection
- Neuroprotection
- Hemicraniectomy
- Telemedicine
5 Major Presentations

- Dominant hemisphere stroke
- Non-dominant hemisphere stroke
- Cerebellar stroke
- Brainstem stroke
- Hemorrhagic stroke
Dominant Hemisphere Stroke

- *Left* gaze deviation
- Aphasia
- Right hemianopia
- Right hemiparesis and hemisensory loss
Non-dominant Stroke

- **Right** gaze deviation
- Left sided neglect
- Left hemianopia
- Left hemiparesis and hemisensory loss
Visual Neglect

Kolb and Whishaw 1990
Cerebellar Stroke

- Ataxia—usually lateralized
- Dysarthria
Brainstem Stroke

- Altered consciousness
- Vertigo, nausea, vomiting, hiccups
- Abnormal pupillary/eye movements
- Ataxia
- Dysarthria
- Crossed signs:
  - One side of the face
  - Opposite side of the body
Hemorrhagic Stroke

- Similar presentation as ischemic stroke
- Usually associated with very high BP
- +/- rapid decline in level of consciousness
Posturing
Stroke Mimics

- Hypoglycemia
- Anamnestic response (UTI, etc.)
- Post-ictal (Todd’s) paralysis
- Migraine
- Conversion
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If the onset time isn’t documented, the clock starts with the time the patient was *last known* to be in his usual state of health.

May need to be creative . . .
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Inclusion Criteria:
Clinical diagnosis of ischemic stroke causing a measurable neurological deficit

- Onset within 3 hours
- Age ≥ 18 years

Exclusion Criteria:
- Symptoms minor or rapidly improving*
- Seizure at onset
- Stroke or head trauma within 3 mos.
- Major surgery within 14 days
- History of ICH
- SBP>185 or DBP>110
- Aggressive tx needed to lower BP
Exclusion Criteria, con’t:

• Symptoms suggestive of SAH
• GI or GU bleeding within 21 days
• Non-compressible arterial puncture < 7d
• Heparin within 48° with ↑ PTT
• INR > 1.7
• Platelets < 100,000
• 50 > glucose > 400

39 – 26 = 13% absolute difference

\[
\frac{100}{13} = 8 \text{ needed to treat}
\]
IV tPa within 3 - 4.5 hrs.

“… 32% of patients considered to have mild or significantly improving neurologic symptoms were either dependent at discharge or died during hospital admission.”

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Mechanical Embolectomy

Mechanical Embolectomy
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Hemicraniectomy
Hemicraniectomy Data

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Tele-Stroke

Courtesy of Brett Meyer, M.D.
University of California, San Diego
Annual Stroke Mortality 2001-2004

Avg# of deaths per county per year (total for all counties in group)

- <10 (64)
- 10-50 (1,033)
- 50-100 (1,067)
- >100 (1,186)

Yuan, H. and Brue, C. *Wisconsin Heart Disease and Stroke Surveillance Summary Update – 2007 – PPH 43040 (01/07).* Wisconsin Department of Health and Family Services, Division of Public Health.

The Joint Commission. Available at: [http://www.jointcommission.org/CertificationPrograms/Disease-SpecificCare/DSCOrgs/](http://www.jointcommission.org/CertificationPrograms/Disease-SpecificCare/DSCOrgs/) Accessed 10/14/07
How to Reach Us

Emergent Referrals
UW Access Center
Phone: 800-472-0111

Office Referrals
UW Stroke Clinic
Phone: 608-265-8899
Fax: 608-265-1753