EMERGENCY DEPARTMENT TRIAGE OF	
ACUTE STROKE	
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DISCLOSURE	
■ I, Silvio D. Morales, Jr.,MD, have no financial relationships	
affecting the content of this presentation.	
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Objectives	
■ Early recognition of potential stroke patients	
■ Initiation of "code stroke" protocols	
■ Early stabilization/treatment	
■ Identification of hemorrhagic vs. non-hemorrhagic CVA	
■ Initiation of appropriate intervention	

Why? ■ 3rd leading cause of death in U.S. ■ Leading cause of adult disability ■ 4-5 million stroke survivors yearly Cost to society due to stroke disability is in billions of dollars Aging population Early Recognition ■ EMS personnel education ■ Signs/symptoms of acute CVA ■ Field exam ■ IV access, O2, cardiac monitor, blood glucose ■ Rapid transport ■ ED Staff education $\hfill \square$ Signs/symptoms of acute CVA ■ IV access, O2, cardiac monitor, blood glucose ■ Initiation of "Code Stroke" protocols EMS Early Recognition and Treatment ■ ABC's, supplemental O2 ■ IV access, cardiac monitor, blood glucose ■ Field Stroke Assessment $\hfill \square$ Several pre-hospital stroke scales in the literature ■ Establish time when patient was last "normal" \blacksquare Rapid transport-consider transport to designated stroke ■ Notify medical control/receiving hospital

Cincinnati Pre-Hospital Stroke Scale (FAST Criteria) F A S T Face: SMILE RAISE SEAR AS MINEL SET Could be Groupy? Is one scon weak? Surred? Unade to? Set Tunel Set

Signs and Symptoms of Acute CVA

- $\hfill \blacksquare$ Sudden weakness or numbness of face, arm or leg
- Sudden confusion or difficulty with speech/comprehension
- Sudden visual change in one or both eyes
- Sudden difficulty with ambulation, dizziness, coordination
- $\blacksquare \ \ \mathsf{Sudden}, \mathsf{severe}\,\mathsf{headache}\,\mathsf{with}\,\mathsf{unknown}\,\mathsf{cause}$

ED Early Recognition of Acute Stroke

- ED staff education on signs/symptoms
- High level of awareness
- \blacksquare Patient prioritized in ED
- Initiation of "Code Stroke" Protocols
- ED physician notification of potential "code stroke" patient
- NIH stroke scale

"Code Stroke"	
 Rapid mobilization of resources/staff Time is Brain 	
 Ideally within 10 minutes of arrival 	
■ ABC's, O2, IV access, cardiac monitor, blood glucose check	
Automatic notification of radiology	
■ ED physician for prompt immediate evaluation and stabilization ■ Emergent CT scan, non-perfusion	
■ NIHstroke scale	
■ EKG	
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NIII I Charles Corale	
NIH Stroke Scale	
■ Scoring system	
 Assesses: CN (visual), motor, sensory, cerebellar, inattention, language, level of consciousness 	
■ Why?	-
Reproducible among different examiners	
■ Guides treatment	
Predicts outcomes	
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NIII ICC	
NIHSS	
NIHSS	
■ If improving, may withhold treatment	
☐ If improving, may withhold treatment ☐ <8, may not treat	
■ If improving, may withhold treatment	
☐ If improving, may withhold treatment ☐ <8, may not treat	
☐ If improving, may withhold treatment ☐ <8, may not treat ☐ 8-20 may treat aggressively	
☐ If improving, may withhold treatment ☐ <8, may not treat ☐ 8-20 may treat aggressively	

ED Management	
■ CT performed, awaiting result	-
■ ABC's	
Review history and exam	
■ RepeatNIHSS	
■ Blood pressure control	
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ED Treatment	
■ Blood pressure control	
■ Somewhat controversial	
□ In general:	
systolic<185, diastolic<110 No treatment	
Systolic>185, diastolic>110Treat patient	
Pulse>55, Labetalol, pulse<55, Nipride	
☐ Goal:10-15% reduction, or, MAP approximately 110	-
CT no bleed, time< 3 hours	
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■ Reassess ABC's	
Repeat NIHSS	
□ Discuss with interventionalist	
■ tPA	
■ Blood pressure control if indicated	
■ Consider transfer to Primary Stroke Center	

CT, no bleed, >3 hrs, <8hrs	
■ ABC's	
■ Repeat NIHSS	
■ Blood pressure control if indicated	
■ Discuss with interventionalist	
□ Consider transfer to Primary Stroke Center	
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CT, no bleed, > 8 hrs	
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■ ABC's	
■ NIHSS repeat	
■ Blood pressure control if indicated	
■ Anti-platelet therapy	
□ Discuss with interventionalist	
■ Consider transfer to Primary Stroke Center vs. admission	
to your institution	
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CT scan shows a bleed	
■ ABC's	
■ Discuss with Interventionalist and/or Neurosurgeon	
■ Blood pressure control if indicated	
■ Admit/transfer to appropriate level of care	I and the second
■ Admit/transfer to appropriate level of care	
■ Admit/transfer to appropriate level of care	

To tPA or not to tPA? ■ Primum non nocere 6% of patients who receive tPA for ischemic stroke will have a subsequent cerebral hemorrhage ■ Increased public awareness ■ Decision to treat is safer as done as part of multi-disciplinary ■ Liability if withheld? Your ED ■ Does your current process/treatment meet reasonable standard of care? ■ Do you have the necessary consultants/specialists to support your ED? ■ If not, do you have necessary transfer agreements with appropriate facilities? ■ Efficient, protocol-driven to maximize outcomes for stroke Stroke Centers ■ ED care properly supported institutionally ■ ED has input into stroke treatment/protocols ■ Staff education and continuing QI ■ Stroke team "champion"