



# NIH Stroke Scale & Tips for tPA

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# Outline

- Define the NIHSS and understand its role in stroke assessment
- Break down the NIHSS into more easily understandable terms
- Identify helpful tips for IV tPA administration in acute ischemic stroke



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# NIHSS

- National Institute of Health Stroke Scale (NIHSS)
- Systematic assessment tool
- Predictive of lesion size and measure of severity
- Predictor of short and long term outcome
- Data collection tool for planning patient care
- **Provides a common language for healthcare providers**



# NIHSS

- “...designed to be a **simple**, valid, and reliable tool that can be administered at the bedside consistently by physicians, nurses or therapists.”
- “...requires **less than 10 minutes** to complete.”



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# NIHSS

- 15-item neuro exam stroke scale
  1. LOC
  2. Language
  3. Neglect
  4. Visual fields
  5. EOM
  6. Motor strength
  7. Ataxia
  8. Dysarthria
  9. Sensory loss



# NIHSS Demonstration



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# Tips for tPA

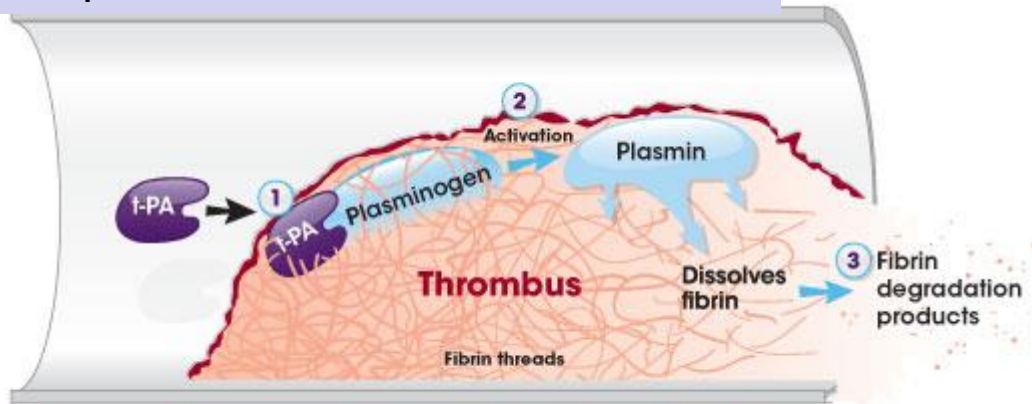


- r-tPA: recombinant tissue plasminogen activator
- alteplase (generic name)
- Only drug approved by the FDA for treatment of acute ischemic stroke



# How does it work?

## Alteplase: Mechanism of Action



1 Recombinant t-PA (alteplase) binds to fibrin in thrombus 2 converts entrapped plasminogen to plasmin that 3 initiates local fibrinolysis.

Source: cathflo.com



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# Who can receive it?

- FDA approved for acute ischemic stroke  
Last Known Well (LKW)  $\leq$  3 hours ago
- Research shows effectiveness:  $\leq$  4.5 hours LKW  
for patients less than 80 years old
- Inclusion / Exclusion criteria



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# How to mix

- Calculate dose (double check)
- Total dose not to exceed 90mg
- 0.9 mg/kg
- 10% of total dose given as IV bolus (push over 1 minute)
- Remaining 90% given as IV drip (infuse over 1 hour)



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# Monitoring your patient

- Watch closely for:
  1. Decline in LOC, sudden neuro deterioration
  2. Sudden rise in BP
  3. New headache
  4. Nausea / vomiting
- In any of above noted, **STOP infusion immediately** and notify provider!



# Vital Signs & Neuro Checks

- Monitor closely:
    - Obtain baseline before giving drug, then
    - Every 15 min x 2 hours, then
    - Every 30 min x 6 hours, then
    - Every 1 hour x 16 hours
- 
- 24 hours close VS & neuro checks
  - Use Flowsheets provided in ND Acute Stroke Treatment Guideline packet
  - Send with EMS providers!



# Drip and Ship



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# EMS Providers

- Continue close VS and Neuro checks
- Document on flowsheet provided in ND Acute Stroke Treatment Guideline packet
- Hand off packet to receiving hospital for accurate, continued monitoring



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# Hand-Off Communication

- What's the story?
- LKW
- NIHSS
- Describe the deficits
- Meds: what was given at what time?
- Imaging (head CT result)
- Family contact info (provide cell phone #s)



# Key Points

- Quick NIHSS
- IV tPA:
  - Appropriate candidates
  - Mechanism of action
  - Tips for mixing
  - Monitoring and documentation
  - Hand-off communication



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# Questions



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