

# Tissue Plasminogen Activator Effects on Stroke and Physical Therapy Outcomes

## in Acute Care: A Case Report

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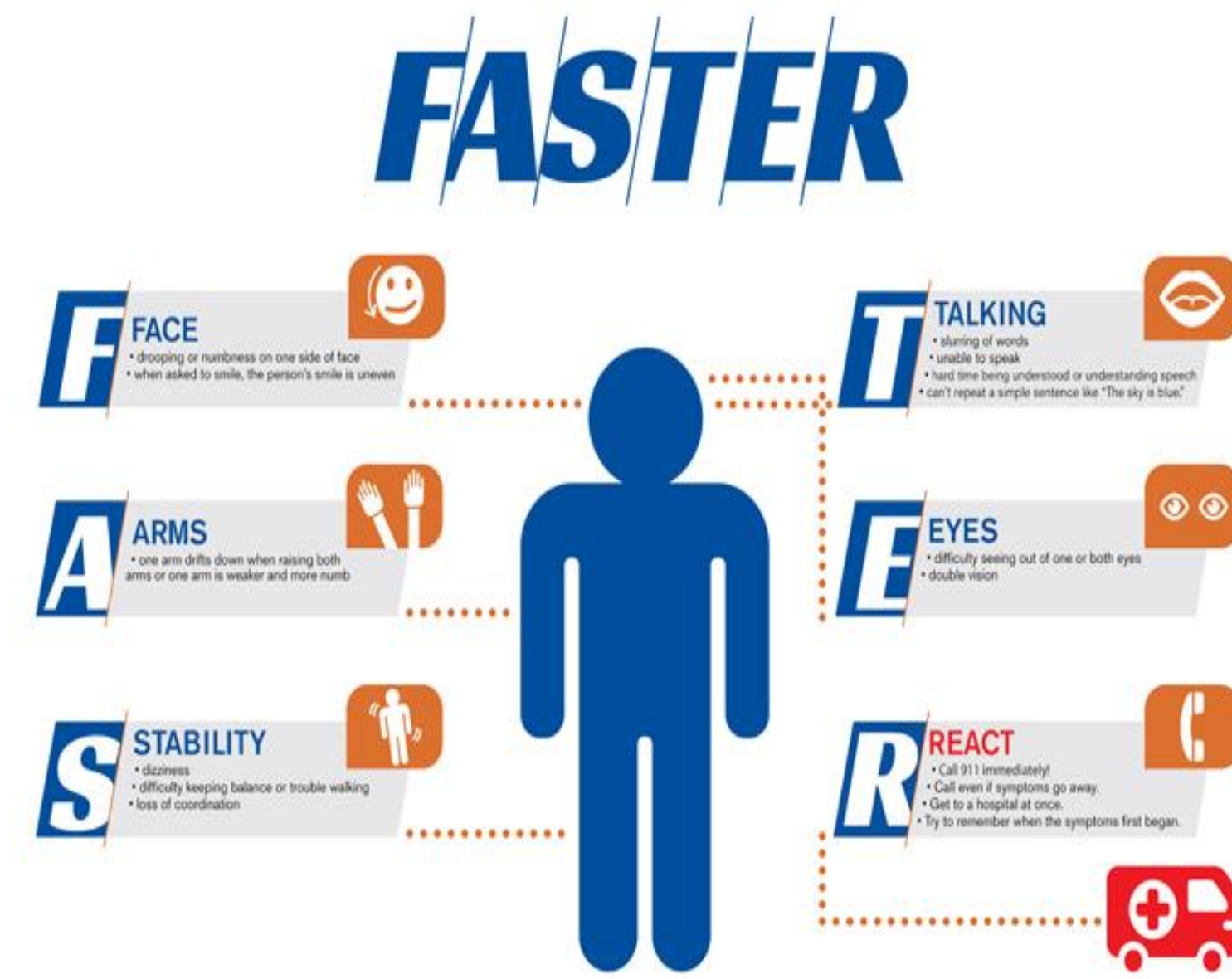
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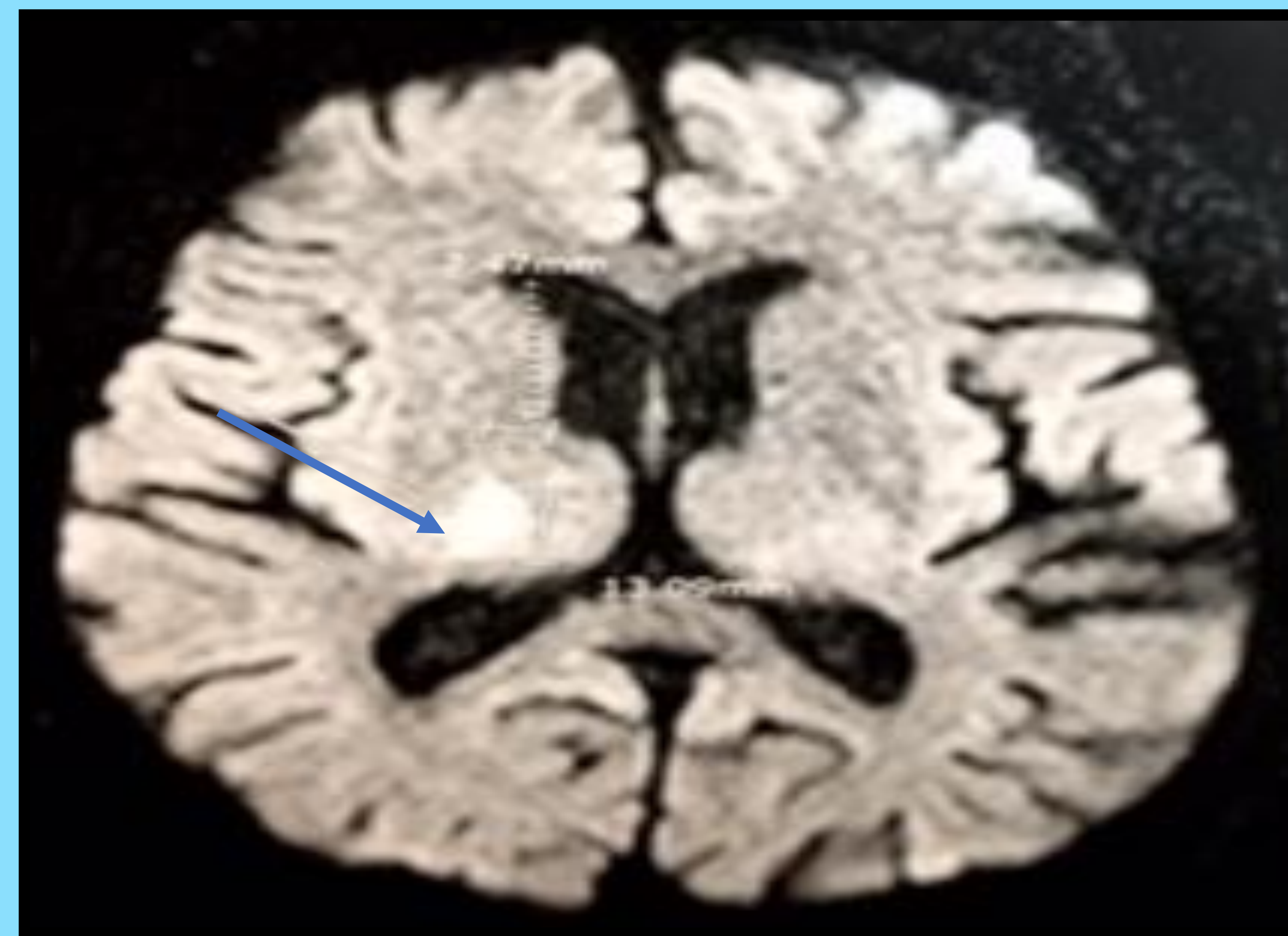
### Introduction

- An ischemic stroke occurs when blood flow to an area of the brain is restricted by a blood clot<sup>1</sup>
- Symptoms include:
  - Numbness or weakness on one side of the body
  - Facial droop
  - Trouble speaking
  - Trouble walking
- Patients can also display:
  - Decreased balance
  - Ataxia
  - Flaccidity
  - Spasticity
  - Inattention or neglect
  - Visual changes
- Patients who can identify these symptoms within 3 hours of their onset can be eligible to receive tissue plasminogen activator (tPA)<sup>2</sup>
- tPA works by dissolving the blood clot to enhance blood flow in the brain which helps decrease the damage caused by the stroke<sup>2</sup>
- Patients who receive tPA in the effective window often have less disability from their stroke than their counterparts who did not receive the drug<sup>2</sup>
- The purpose of this case report is to display the positive effects of tPA and physical rehabilitation following a stroke in the acute care setting**

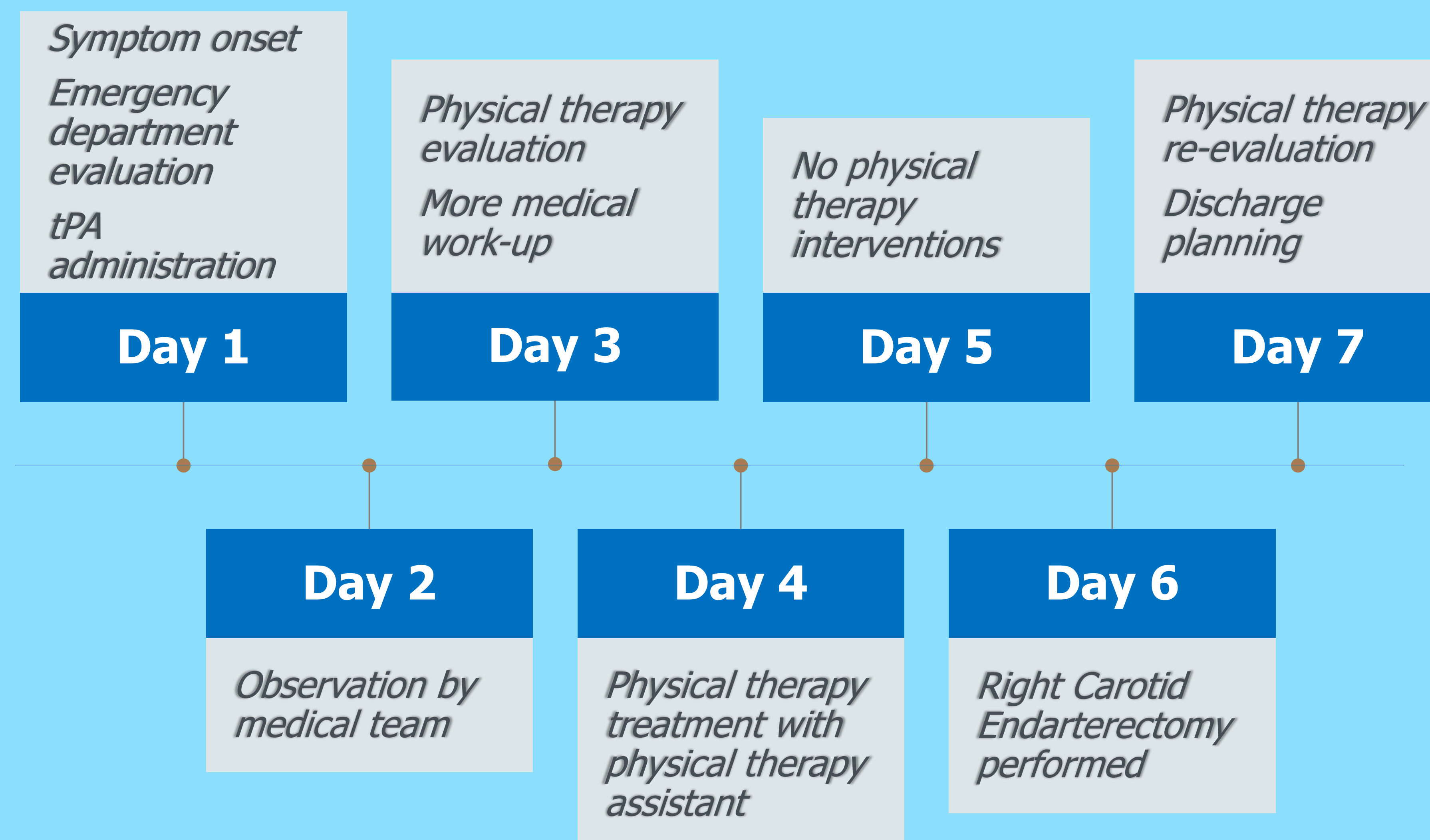


### Case Description

- 83-year-old Caucasian female
- Chief Complaints:
  - Left facial droop
  - Left sided weakness and numbness
- Emergency department assessment
- tPA administered within 1-hour of onset
- MRI confirmed an acute right thalamic stroke
- Physical therapy evaluation of strength, sensation, coordination, and functional mobility



### Timeline



### Outcomes

Outcomes	Before tPA	At Discharge
Strength (MMT)	Left UE: 2+/5 Left LE: 3/5	Left UE: 4-/5 Left: 4-/5
Sensation (Light touch)	Numbness/tingling in Left LE	Light touch intact but hypersensitive left lateral thigh
Coordination (Finger-to-nose)	Unable to perform on left	Slow and decreased accuracy on left
Bed mobility (Rolling, supine <-> sit, scooting)	Not tested-was independent before admission	Supervision
Transfers (Bed, chair, toilet)	Not tested- was independent before admission	Supervision
Gait	Not tested- was independent with no assistive device before admission	Minimum Assistance with flat foot and slight genu recurvatum on the left, and scissoring gait with dual tasks
Modified Rankin Scale	0- no symptoms (day before admission)	1- No significant disability despite symptoms
AM-PAC	Not tested- was independent before admission	40.47% decrease in function

### Discussion

- This case report displayed how tPA decreased the impairments experienced by this patient after the onset of a stroke
- The improvements were maintained throughout the patient's hospital stay and a carotid endarterectomy
- The patient was able to be discharged home and receive home health PT
- This patient had several positive prognostic indicators, so it is difficult to determine whether her positive outcome was solely impacted by the tPA
- This case report demonstrates the importance of early stroke symptom recognition in order to receive tPA to decrease functional impairments and to have better outcomes with physical therapy

### References

- National Stroke Association. What is Stroke?. <https://www.stroke.org/understand-stroke/what-is-stroke/>. Accessed July 19, 2019.
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Images:  
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