



## DEPARTMENT OF RADIOLOGY

ALL INDIA INSTITUTE OF MEDICAL SCIENCES

RAJKOT, GUJARAT

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# Acute Ischemic Stroke

Stroke is the second leading cause of death and the third leading cause of disability all over the world.

Early recognition of AIS signs, initiation of treatment within the window period can reduce the burden in thrombo-embolic stroke.

The mean age of stroke in India (and other low- & medium-income countries is ~ 15 years lower as compared to the high income countries).

Stroke is responsible for > 5.5 million deaths per year world wide.



**1 in 4** strokes are in people who have had a previous stroke



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Strokes are one of the top 10 causes of death

in children between the ages of 1 and 19 years



STROKE AWARENESS:

# TIME IS BRAIN.

Time lost is brain lost. Learn the symptoms of stroke and act F.A.S.T.

## "Symptoms of Acute Ischemic Stroke (AIS)"

<b>F</b> FACE	<b>A</b> ARM	<b>S</b> SPEECH	<b>T</b> TIME
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Does one side of the face droop?

Does one arm drift downward?

Does the speech sound slurred or strange?

If u observe any of these, rush to hospital.



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NIHSS SCORE	STROKE SEVERITY	IMPACTED BRAIN DENSITY
0	No Stroke	
0 – 4	Minor Stroke	
5 – 15	Moderate Stroke	
16– 20	Moderate to Severe Stroke	
21 - 42	Severe Stroke	

The National Institutes of Health Stroke Scale (NIHSS)- A tool used by Health care providers to objectively quantify the neurological impairment caused by the stroke.

## 80% OF ALL STROKES CAN BE PREVENTED

### KEY FACTORS FOR STROKE PREVENTION



1. CONTROL HIGH BLOOD PRESSURE



2. DO MODERATE EXERCISE 5X A WEEK



3. EAT A HEALTHY, BALANCED DIET



4. REDUCE YOUR CHOLESTEROL



5. MAINTAIN A HEALTHY BMI OR WAIST TO HIP RATIO



6. STOP SMOKING AND AVOID SECOND-HAND EXPOSURE



7. REDUCE ALCOHOL INTAKE



8. IDENTIFY AND TREAT ATRIAL FIBRILLATION



9. DIABETES



10. INCOME AND EDUCATION





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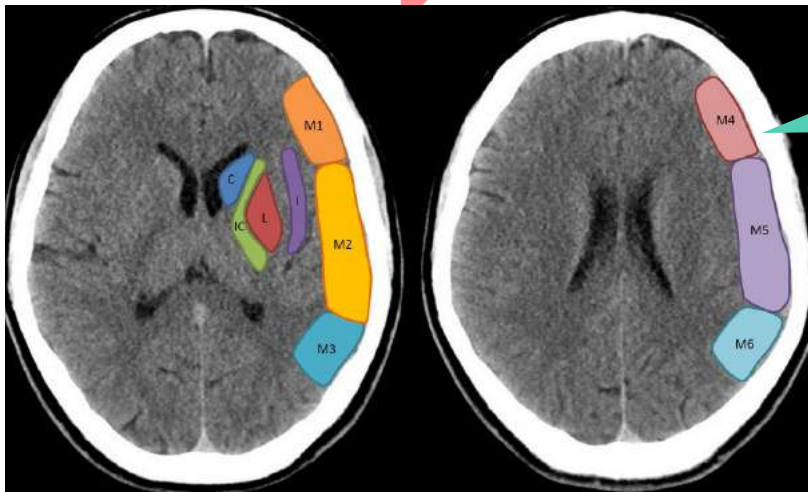
## Role of Radiologists in AIS management

Diagnosis

NCCT

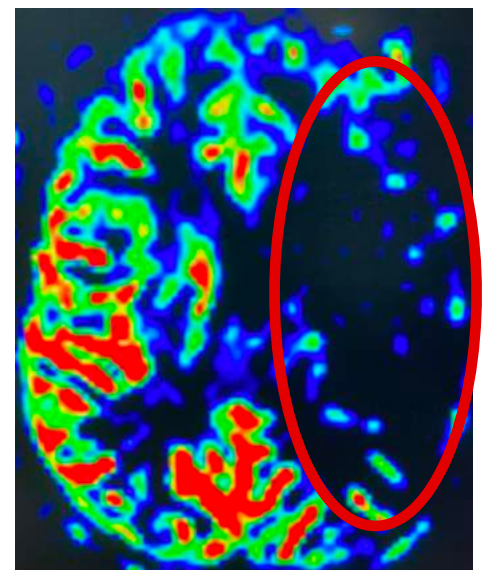
CTAngio

MRI



MCA ASPECTS on NCCT

Diffusion- Perfusion  
Mismatch on MRI



Vessel cut off on CTA



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1. ASPECTS on MRI is estimated on which sequence?

A. FLAIR

B. DWI

C. SWI

D. Perfusion

2. What is the time window for IV thrombolysis in anterior circulation acute ischemic stroke?

A. 3 hrs

B. 4.5 hrs

C. 6 hrs

D. 12 hrs

3. Mechanical thrombectomy in posterior circulation acute ischemic stroke can be performed upto?

A. 3 hrs

B. 6 hrs

C. 12 hrs

D. 24 hrs

4. Most relevant imaging feature in wake up stroke is:

A. FLAIR-DWI Mismatch

B. DWI-SWI Mismatch

C. Perfusion-SWI Mismatch

D. DWI-Perfusion Mismatch





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## Role of Radiologists in AIS management

### Mechanical Thrombectomy

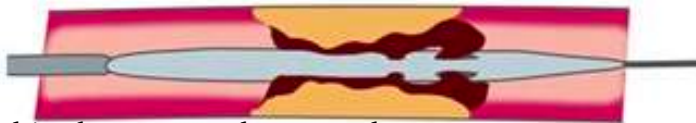
Treatment

Catheter aspiration thrombectomy

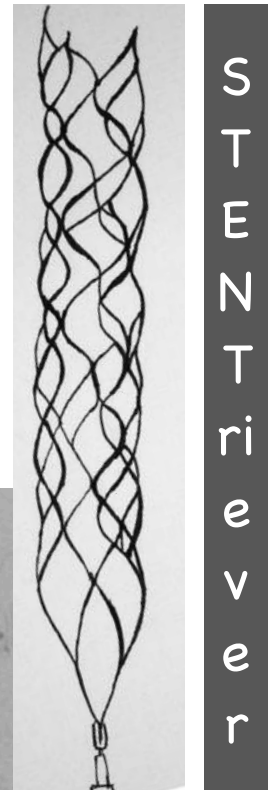


Blood clot is removed using suction

Stentriever Thrombectomy

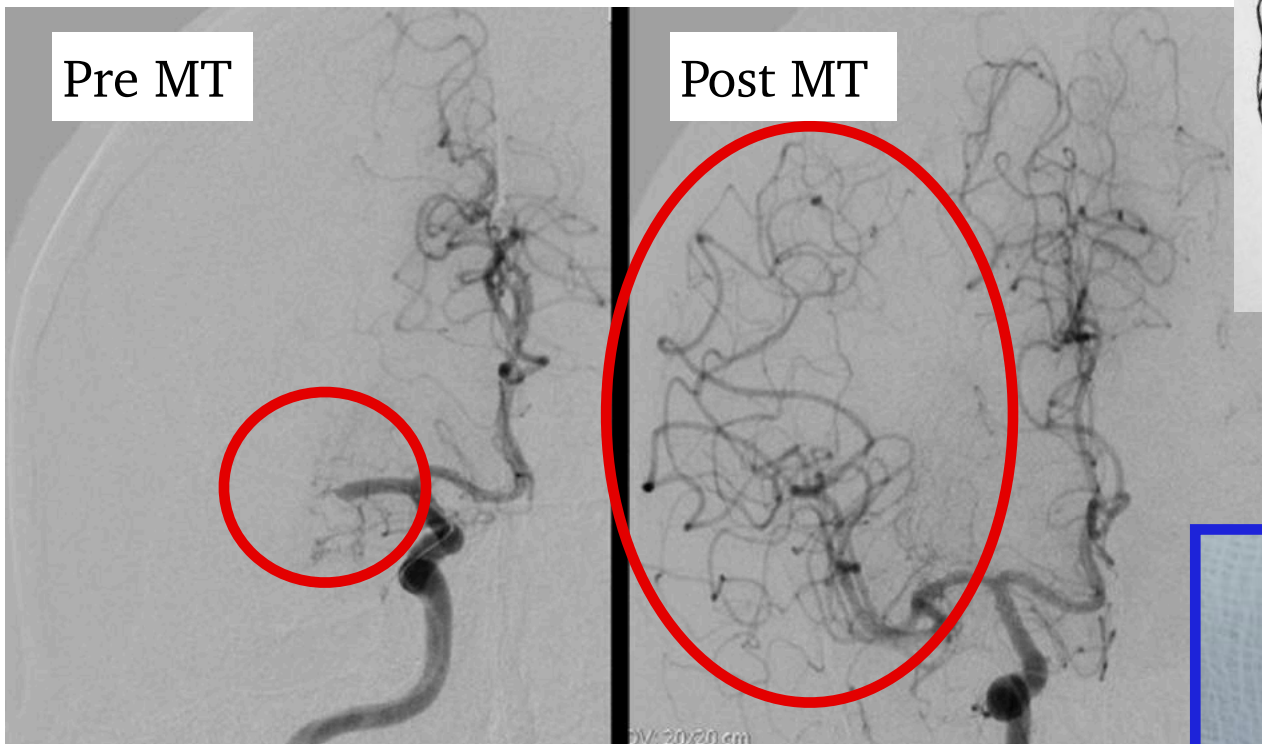


Clot is engaged in the stent and removed

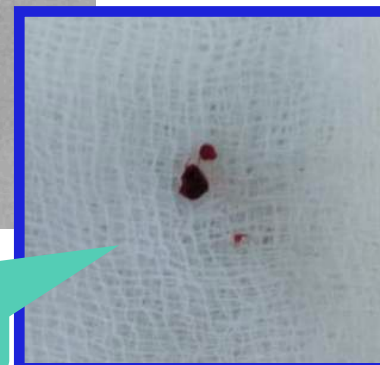


Pre MT

Post MT



Retrieved Clot



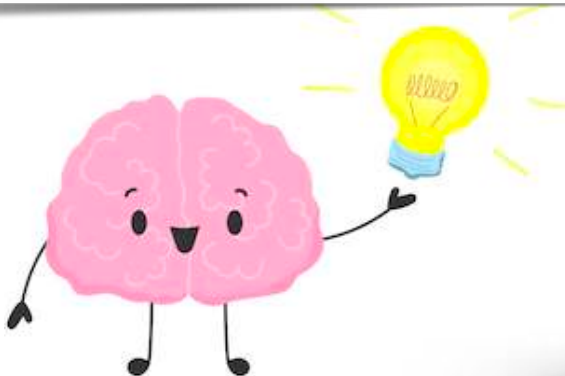
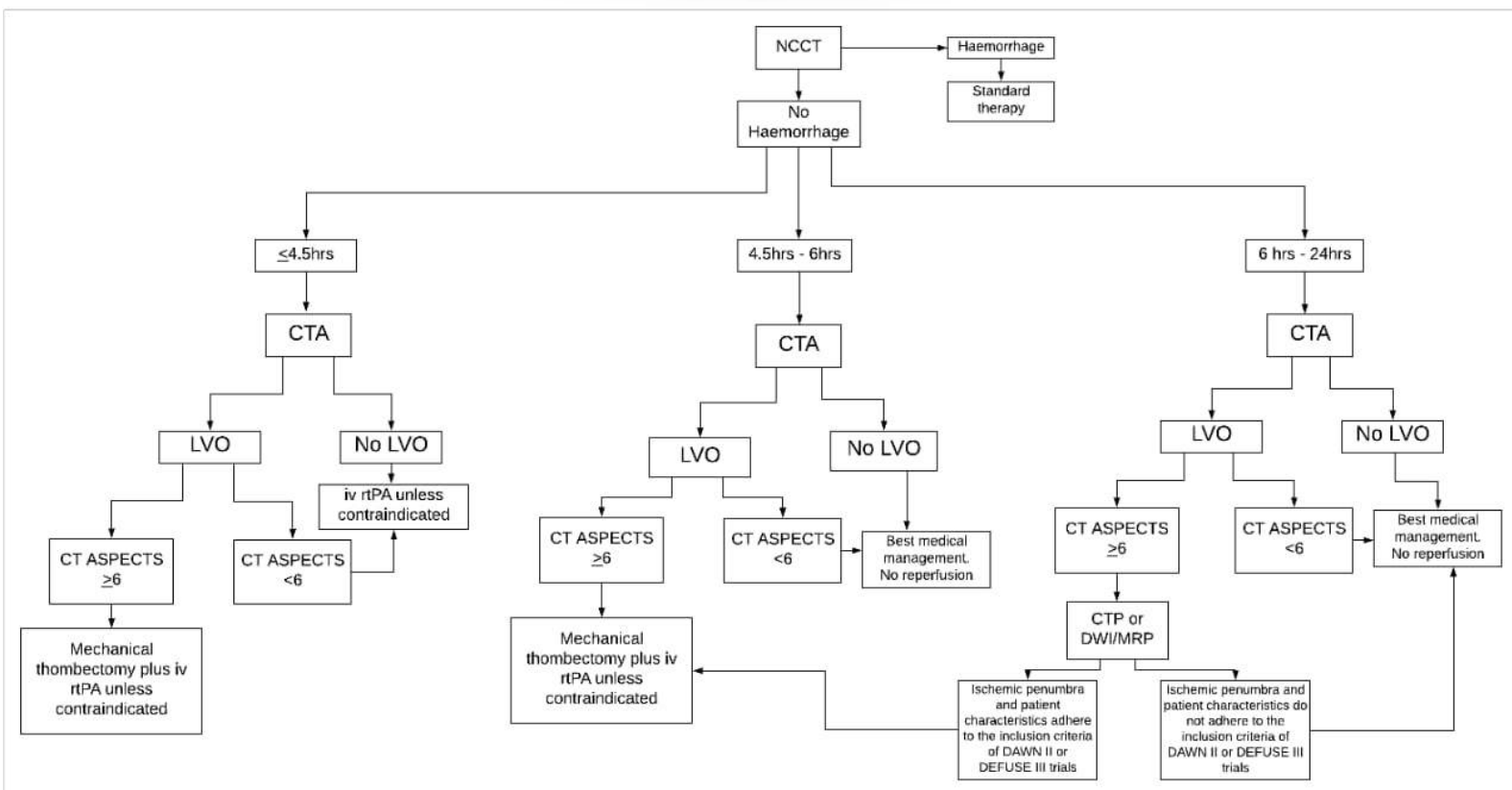


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## Management algorithm for AIS- Large Vessel Occlusion (LVO)



### Answers to the quiz-

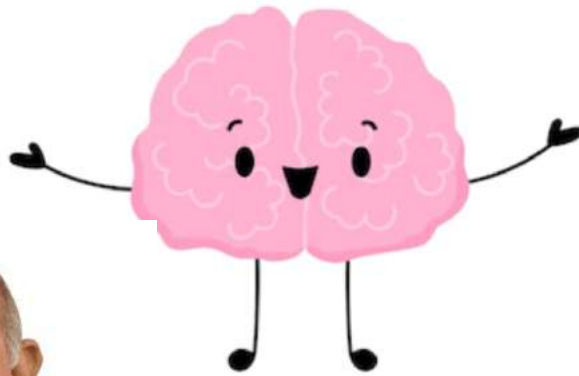
- |      |      |
|------|------|
| 1. B | 2. B |
| 3. D | 4. A |



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## Message from the Executive Director:

I heartily congratulate the department of Radiology for their initiative to release e- newsletter in their specialty. My best wishes to the team.

- Prof. Dr. (Col.) C D S Katoch

## Message from the Department

Early recognition of stroke symptoms mandates public education.

The ultimate aim is to keep the time to treatment as short as possible.

Dr. Richa Singh Chauhan, Assistant Professor  
Dr. Spandan Chhotai, Junior Resident