



Department of Health Research Ministry of Health and Family Welfare, Government of India



Standard Treatment Workflow (STW) IMAGE GUIDED MANAGEMENT OF STROKE ICD-10-163.9

SYMPTOMS	Numbness or weakness especially on one side of the body	Loss of consciousness or altered consciousness	Decreased vision in one or both eyes	Language difficulties either in speaking or understanding	Difficulty in walking, loss of balance or coordination	
WHAT IS STROKE?	Confusion or loss of memory	Swallowing difficulties	Paralysis of any part of the body, including face	Sudden severe headache with no known cause	Neck pain	Nausea and vomiting
An episode of neurological dysfunction caused by focal cerebral, spinal or retinal infarction or haemorrhage	 WARNU BALANCE: Loss EYES: Sudden sudden, persister FACE: Deviation ARM: Arm drift SPEECH: Slurred speak or unders TIME: Act fast Sudden new or consciousness Sudden giddine 	ING SIGN (BEFAST) of balance or coord blurred or doub ont vision trouble at the angle of the d speech or the in tand nset of headache ss, vomiting and in	dination ole vision, e mouth nability to or loss of nbalance	 WARNING SIGN (FAST) F: stands for sudden numbness or weakness of FACE, especially on one side of the body A: stands for sudden numbness or weakness of ARM or LEG especially on one side of the body S: refers to difficulty in SPEECH and understanding T: is the TIME to rush to the hospital 		
TYPES OF STROKE						

Ischemic stroke

Focal cerebral. spinal or retinal infarction

Intracerebral haemorrhage Focal collection of blood within the brain parenchyma or ventricular system that is not caused by trauma

Subarachnoid haemorrhage Bleeding into the subarachnoid space structure

Cerebral venous thrombosis of cerebral venous

Transient Ischemic Attack (TIA)

Transient episode of neurological dysfunction caused by focal cerebral, spinal cord or retinal ischemia without acute infarction

INVESTIGATIONS Essential

- CT scan head
- ECG
- Blood Sugar

Desirable

- CTA
- Echocardiogram
- Lipids
- Renal Parameter
- Optional
- MRI/MRA
- Holter Monitoring

PRELIMINARY MANAGEMENT

- Assess and manage ABCs
- Initiate cardiac monitoring
- Maintain O2 saturation







Mechanical



Bleed-Likely



Diffuse SAH – Ruptured Intracranial Aneurysm

IMAGING- WHAT ALL WE WANT TO KNOW?

- Parenchyma-bleed vs. Ischemia, area involved
- Pipes- Occlusion?, location: 1. Large vessel occlusion vs. Distal branch occlusion
- Perfusion- collaterals? -Multiphase CT angiogram (3rd phase, predicts the outcome)
- Penumbra- Tissue at risk (salvageable tissue)

Assess the 4Ps of stroke as quickly as possible



Dense MCA Sign





Gangliocapsular Intraparenchymal Bleed



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TIME IS BRAIN, SAVE NEURONS SAVE A LIFE

This STW has been prepared by national experts of India with feasibility considerations for various levels of healthcare system in the country. These broad guidelines are advisory, and are based on expert opinions and available scientific evidence. There may be variations in the management of an individual patient based on his/her specific condition, as decided by the treating physician. There will be no indemnity for direct or indirect consequences. Kindly visit the website of ICMR for more information: (icmr.gov.in) for more information. ©Indian Council of Medical Research, Ministry of Health & Family Welfare, Government of India.