



Guidance document for processing PM-JAY packages

Acute ischemic stroke

Procedure covered: 1

Specialty: Interventional Neuroradiology

Package name	Procedure name	HBP 1.0 code	HBP 2.0 code	Package price (INR)
Intracranial thrombolysis / clot retrieval	Intracranial thrombolysis / clot retrieval	S900013	IN007A	1,60,000

ALOS: 3 days

Minimum qualification of the treating doctor:

Essential: DM/Equivalent (in Interventional Neuroradiology), MCh/DNB/Equivalent (in Neurosurgery)

Special empanelment criteria/linkage to empanelment module: Care at Tertiary Hospital.

Disclaimer:

For monitoring and administering the claim management process **Intracranial thrombolysis / clot retrieval**, NHA shall be following these guidelines. This document has been prepared for guidance of PROCESSING TEAM and TRANSACTION MANAGEMENT SYSTEM of AB PM-JAY for the claims of procedures mentioned above. The ICMR guidelines are also included in the document for better understanding of the SHA teams, Insurance companies and TPAs. The hospitals can also refer to this document so that they have the insight on how the claims will be processed. However, this document doesn't provide any guidance on clinical and therapeutic management of patient. In that respect the hospitals and physicians may refer to the ICMR poster and other relevant material as per the extant professional norms.

PART I: GUIDELINES FOR CLINICIANS AND HEALTHCARE PROVIDERS

1.1 Objective:

The purpose of this section is to act as a guidance & a clinical decision support tool for the clinicians in deciding the line of treatment, plan clinical management of patient and decide referral of cases to the appropriate level of care (as required) for treatment of patients under PMJAY and selection of corresponding Health Benefit Package.

It will also serve as a tool for hospitals to determine and submit the mandatory documents required for claiming reimbursement of health benefit package under PMJAY.

1.2 Clinical key pointers:

A stroke or cerebrovascular accident (CVA) is an acute compromise of the cerebral perfusion or vasculature. Ischemic etiologies can further be divided into embolic, thrombotic, and lacunar. In general, the common risk factors for stroke include hypertension, diabetes, smoking, obesity, atrial fibrillation, and drug use. Of all the risk factors, hypertension is the most common modifiable risk factor for stroke.

- National Institutes of Health Stroke Scale (NIHSS) (Appendix 1) is routinely used to get the stroke rating scale baseline evaluation.
- Cerebral Thrombolysis &/or Clot Retrieval is a procedure that removes a blood clot that is blocking the blood flow to the brain for acute ischemic stroke.
- Thrombolysis is the use of medication to dissolve or break down the blood clot. The current gold standard medical management of acute ischemic stroke is intravenous (IV) thrombolysis by administration of recombinant tissue plasminogen activator (rt-PA).
 - A patient whose stroke symptoms started within 4.5 hours may be a candidate for intravenous thrombolysis
- Endovascular clot retrieval (ECR) is the removal of large clots occluding a brain vessel through an intra-arterial approach.
 - A patient with a stroke due to a large vessel occlusion is a potential candidate for both intravenous thrombolysis and ECR, with ECR suitable for selected patients up to 24 hours after the time they were last seen well. Patients who are ineligible for intravenous thrombolysis may still be candidates for ECR.

Guidelines for ECR eligibility

- Ischaemic stroke with proven large vessel occlusion on CTA
 - internal carotid artery (ICA)
 - middle cerebral artery (MCA)
 - M1 segment – between the carotid terminus and MCA bifurcation
 - Proximal M2 segment – with significant clinical and perfusion deficit
 - basilar artery
- Independent premorbid function (modified Rankin scale score 0–2). The assessment of premorbid function should consider social and domestic interactions, such as independence in banking, shopping and driving
- Time window: when the procedure can be commenced within **6 hours** of stroke onset, broad clinical and imaging criteria should be applied. Basilar artery occlusion may be treated up to **24 hours** after onset. Anterior circulation patients with favourable CT perfusion imaging should receive ECR up to **24 hours** after stroke onset, as per current national/international guidelines¹⁴⁻¹⁷
- Intravenous thrombolysis commenced if eligible
- Accessible to clot retrieval – assessment by neurointerventionist (requires remote picture archiving and communication system (PACS) access at all referral sites)

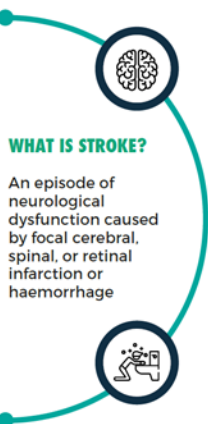


Department of Health Research
Ministry of Health and Family Welfare, Government of India



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Standard Treatment Workflow (STW) for the Management of STROKE ICD-10-I63, I64



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 walking; loss of balance or coordination
- 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

WARNING SIGNS (BEFAST)

- **BALANCE** : Loss of balance or coordination
- **EYES** : Sudden blurred or double vision/ sudden, persistent vision trouble
- **FACE** : Deviation at the angle of the mouth
- **ARM** : Arm Drift
- **SPEECH** : Slurred speech or the inability to speak or understand
- **TIME** : Act fast
- Sudden new onset of headache or loss of consciousness
- Sudden giddiness, vomiting and imbalance

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	Cerebral venous thrombosis Thrombosis of a cerebral venous structure	Transient Ischemic Attack (TIA) Transient episode of neurologic dysfunction caused by focal cerebral, spinal cord, or retinal ischemia, without acute infarction
PRELIMINARY MANAGEMENT			INVESTIGATIONS	
<ul style="list-style-type: none"> • Assess and manage ABCs • Initiate cardiac monitoring • Maintain O₂ saturation >94% • Establish IV access • Determine blood glucose and treat accordingly • Determine time of symptom onset or last known normal, and obtain family contact information, preferably a cell phone • Triage and RAPID TRANSFER of patient to nearest district hospital with CT Scan facility or Stroke centre with facility for thrombolysis • Referral hospital to be notified to handle the referred patient with stroke 			ESSENTIAL <ul style="list-style-type: none"> • CT Scan head • ECG • Blood Sugar • Lipids • Renal parameter 	DESIRABLE <ul style="list-style-type: none"> • CTA • Echocardiogram OPTIONAL <ul style="list-style-type: none"> • MRI/ MRA • Holter monitoring
MANAGEMENT				

STROKE ONSET TIME: <4.5 HOURS

* RECOMMENDED DIAGNOSTIC STUDIES

ISCHEMIC: *
IV tPA (0-4.5 hrs)
or endovascular treatment according to eligibility and availability

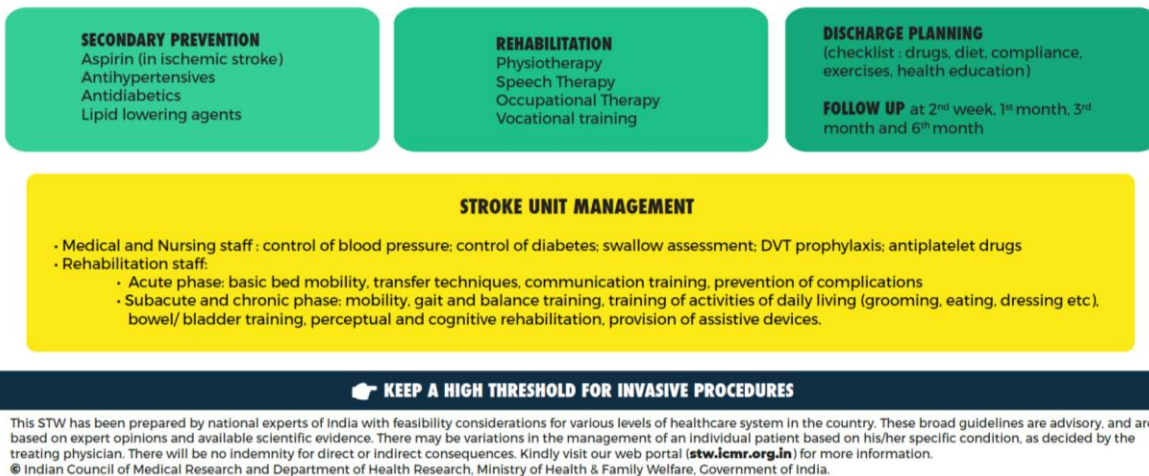
HAEMORRHAGIC:

- Dysphagia assessment.
- Blood pressure/blood sugar monitoring and IV fluids.
- Prevention of Pneumonia
- Prophylaxis for deep venous thrombosis etc, monitor and record ECG

ALL PATIENTS	SELECTED PATIENTS
<ul style="list-style-type: none"> • Non-contrast brain CT or brain MRI • Blood glucose • Oxygen saturation • Serum electrolytes/renal function tests • Complete blood count, including platelet count • Markers of cardiac ischemia • BT, CT, Prothrombin time/INR • Activated partial thromboplastin time • ECG • FLP and carotid doppler (ischemic stroke) 	<ul style="list-style-type: none"> • TT and/or ECT if it is suspected the patient is taking direct thrombin inhibitors or direct factor Xa inhibitors • Liver function tests • Toxicology screen • Blood alcohol level • Pregnancy test • Arterial blood gas test (if hypoxia is suspected) • Chest radiography (if lung disease is suspected) • Lumbar puncture (if subarachnoid haemorrhage is suspected and CT scan is negative for blood) • Electroencephalogram (if seizures are suspected)

STROKE ONSET TIME: >4.5 HOURS

Rapid Assessment, CODE Stroke, Blood pressure and Blood Sugar monitoring, NIHSS, Intravenous lines
Endovascular treatment with Mechanical thrombectomy using stent retriever (4.5 hrs to 24hrs)
according to eligibility



1.3 Mandatory documents- For healthcare providers

Following documents should be uploaded by the concerned hospital staff at the time of pre-authorization and claims submission:

Mandatory document	Intracranial thrombolysis / clot retrieval
i. At the time of Pre-authorization	
Clinical notes especially neurological evaluation findings	Yes
NIHSS/Ranken scale score documentation	Yes
CT/MRI Brain / Digital Subtraction Angiography (DSA)	Yes
Blood pressure monitoring	Yes
Indication of Thrombolytic agent requirement	Yes
Planned line of treatment	Yes
ii. At the time of claim submission	
Detailed Indoor case papers (ICPs)	Yes
Detailed Procedure / operative notes	Yes
Angiogram during procedure	Yes
Intra-operative photographs (optional)	Yes
Post-op CT Brain	Yes
Thrombolytic agent details documentation	Yes
Detailed discharge summary	Yes

PART II: GUIDELINES FOR PROCESSING TEAM



2.1 Objective: To provide guidance to the pre-authorization and claims processing team in ascertaining the medical necessity of procedure carried out vis a vis the patient's medical condition as evidenced by supporting documents/investigation reports etc., in deciding the admissibility and quantum of claim and compliance with mandatory documents by the hospital.

2.2 Following mandatory documents to be diligently reviewed by the pre-auth / claims processing personnel:

2.2.1 At the time of pre-authorization processing- For pre-authorization processing doctor (PPD):

- a. Clinical notes - detailed history especially time of onset of symptoms signs & symptoms, indication for procedure, and planned line of treatment?
- b. Did the patient present with hemiparesis, aphasia, dysarthria, loss of consciousness, cranial nerve palsy?
- c. Did imaging confirm the diagnosis?

2.2.2 At the time of claim processing- For claims processing doctor (CPD)

- a. Are the detailed ICPs with daily vitals and line of treatment?
- b. Are the detailed procedure / Operative Notes available?
- c. Was the imaging indicative of surgery?
- d. Thrombolytic agents invoice/barcode/documentation submitted?
- e. Was post-op CT brain report submitted?
- f. Is the Discharge summary with follow-up advise at the time of discharge?

PART III: GUIDELINES FOR IT

3.1 Objective: To enable setting up of cross check mechanisms / rule engines within the IT platform (TMS) to ensure compliance with STGs and to prevent fraud / abuse of the Health Benefit Package.

3.2 Below mentioned are the scenarios where a provision would be built in TMS for pop-ups:

- a. Was clinical presentation, history, severity and imaging indicative of surgery?
Yes

Till the time the functionality is being developed, the processing doctors shall check the above manually.

References

1. Endovascular clot retrieval for acute stroke Statewide service protocol for Victoria. Safer Care Victoria's Stroke Clinical Network. 2018.
https://www.bettersafercare.vic.gov.au/sites/default/files/2018-10/PROTOCOL_ECR%20for%20acute%20stroke_October%202018_0.pdf

2. Khaku AS, Tadi P. Cerebrovascular Disease. [Updated 2020 Aug 10]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2020 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK430927/>
3. Standard Treatment Guidelines. Neurosurgery. Health & Family Welfare Department. Government of Maharashtra

Acknowledgment:

¹Standard Treatment Workflows of India. 2019 Edition, vol. 1, New Delhi, Indian council of Medical Research, Department of Health Research, Ministry of Health and Family Welfare, Government of India. These STWs have 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 web portal (stw.icmr.org.in) for more information. © Indian Council of Medical Research and Department of Health Research, Ministry of Health & Family Welfare, Government of India.

Appendix 1 (NIH stroke scale (NIHSS))

1. Mark S. Greenberg. Handbook of Neurosurgery. Ninth Edition. 2020. Thieme

Scale	Finding
1a. Level of consciousness (LOC)	
0	alert; keenly responsive
1	not alert, but arousable by minor stimulation to obey, answer or respond
2	not alert, requires repeated stimulation to attend, or is obtunded and requires strong painful stimulation to make movements (not stereotyped)
3	comatose: responds only with reflex motor (posturing) or autonomic effects, or totally unresponsive, flaccid and areflexic
1b. Level of consciousness questions	
Patient is asked the month and their age.	
0	answers both questions correctly: must be correct (no credit for being close)
1	answers one question correctly, or cannot answer because of: ET tube, orotracheal trauma, severe dysarthria, language barrier, or any other problem not secondary to aphasia
2	answers neither question correctly, or is: aphasic, stuporous, or does not comprehend the questions
1c. Level of consciousness commands	
Patient is asked to open and close the eyes, and then to grip and release the non-paretic hand. Substitute another 1-step command if both hands cannot be used. Credit is given for an unequivocal attempt even if it cannot be completed due to weakness. If there is no response to commands, demonstrate (pantomime) the task. Record only first attempt.	
0	performs both tasks correctly
1	performs one task correctly
2	performs neither task correctly
2. Best gaze	
Test only horizontal eye movement. Use motion to attract attention of aphasic patients.	
0	normal horizontal movements
1	partial gaze palsy (gaze abnormal in one or both eyes, but forced deviation or total gaze paresis are not present) or patient has an isolated cranial nerve III, IV, or VI paresis
2	forced deviation or total gaze paresis not overcome by oculoccephalic (Doll's eyes) maneuver (do not do caloric testing)
3. Visual	
Visual fields (upper and lower quadrants) are tested by confrontation. May be scored as normal if patient looks at side of finger movement. Use ocular threat where consciousness or comprehension limits testing. Then test with double sided simultaneous stimulation (DSSS).	
0	no visual field deficit
1	partial hemianopia (clear cut asymmetry), or extinction to DSSS

Scale	Finding
2	complete hemianopia
3	bilateral hemianopia (blind, including cortical blindness)
4. Facial palsy	
Ask patient (or pantomime) to show their teeth, or raise eyebrows and close eyes. Use painful stimulus and grade grimace response in poorly responsive or non-comprehending patients.	
0	normal symmetrical movement
1	minor paralysis (flattened nasolabial fold, asymmetry on smiling)
2	partial paralysis (total or near total paralysis of lower face)
3	complete paralysis of one or both sides (absent facial movement in upper and lower face)
5. Motor Arm (5a= left, 5b= right)	
Instruct patient to hold the arms outstretched, palms down (at 90° if sitting, or 45° if supine). If consciousness or comprehension impaired, cue patient by actively lifting arms into position while verbally instructing patient to maintain position.	
0	no drift (holds arm at 90° or 45° for full 10 seconds)
1	drift (holds limbs at 90° or 45° position, but drifts before full 10 seconds but does not hit bed or other support)
2	some effort against gravity (cannot get to or hold initial position, drifts down to bed)
3	no effort against gravity, limb falls
4	no movement
9	amputation or joint fusion: explain
6. Motor leg (6a= left, 6b= right)	
While supine, instruct patient to maintain the non-paretic leg at 30°. If consciousness or comprehension impaired, cue patient by actively lifting leg into position while verbally instructing patient to maintain position. Then repeat in paretic leg.	
0	no drift (holds leg at 30° full 5 seconds)
1	drift (leg falls before 5 seconds, but does not hit bed)
2	some effort against gravity (leg falls to bed by 5 seconds)
3	no effort against gravity (leg falls to bed immediately)
4	no movement
9	amputation or joint fusion: explain
7. Limb ataxia	
Looking for unilateral cerebellar lesion). Finger-nose-finger and heel-knee-shin tests are performed on both sides. Ataxia is scored only if clearly out of proportion to weakness. Ataxia is absent in the patient who cannot comprehend or is paralyzed.	
0	absent
1	present in one limb
2	present in two limbs
9	amputation or joint fusion: explain
8. Sensory	
Test with pin. When consciousness or comprehension impaired, score sensation normal unless deficit clearly recognized (e.g. clear-cut asymmetry of grimace or withdrawal). Only hemisensory losses attributed to stroke are counted as abnormal.	
0	normal, no sensory loss
1	mild to moderate sensory loss (pinprick dull or less sharp on the affected side, or loss of superficial pain to pinprick but patient aware of being touched)
2	severe to total (patient unaware of being touched in the face, arm, and leg)
9. Best language	
In addition to judging comprehension of commands in the preceding neurologic exam, the patient is asked to describe a standard picture, to name common items, and to read and interpret the standard text in the box below. The intubated patient should be asked to write:	
<ul style="list-style-type: none"> You know how. Down to earth. I got home from work. 	

Scale	Finding
	<ul style="list-style-type: none"> Near the table in the dining room. They heard him speak on the radio last night.
0	normal, no aphasia
1	mild to moderate aphasia (some loss of fluency, word finding errors, naming errors, paraphasias and/or impairment of communication by either comprehension or expression disability)
2	severe aphasia (great need for inference, questioning, and guessing by listener; limited range of information can be exchanged)
3	mute or global aphasia (no usable speech or auditory comprehension) or patient in coma (item 1a=3)
10. Dysarthria	
Patient may be graded based on information already gleaned during evaluation. If patient is thought to be normal, have them read (or repeat) the standard text shown in this box.	
<ul style="list-style-type: none"> MAMA TIP-TOP FIFTY-FIFTY THANKS HUCKLEBERRY BASEBALL PLAYER CATERPILLAR 	
0	normal speech
1	mild to moderate (slurs some words, can be understood with some difficulty)
2	severe (unintelligible slurred speech in the absence of, or out of proportion to any dysphasia, or is mute/anarthric)
0	intubated or other physical barrier
11. Extinction and inattention (formerly neglect)	
Sufficient information to identify neglect may already be gleaned during evaluation. If the patient has severe visual loss preventing visual DSSS, and the cutaneous stimuli are normal, the score is normal. Scored as abnormal only if present.	
0	normal, no sensory loss
1	visual, tactile, auditory, spatial, or personal inattention or extinction to DSSS in one of the sensory modalities
2	profound hemi-inattention or hemi-inattention to more than one modality. Does not recognize own hand or orients to only one side of space.
A. Distal motor function (not part of NIHSS) (a=left arm, b=right)	
Patient's hand is held up at the forearm by the examiner, and is asked to extend the fingers as much as possible. If patient cannot do so, the examiner does it for them. Do not repeat the command.	
0	normal (no finger flexion after 5 seconds)
1	at least some extension after 5 seconds (any finger movement is scored)
2	no voluntary extension after 5 seconds
*based on the Cincinnati stroke scale. ³ Free online text version (https://www.ninds.nih.gov/sites/default/files/NIH_Stroke_Scale.pdf) or graphical version (https://www.ninds.nih.gov/sites/default/files/NIH_Stroke_Scale_Booklet.pdf)	