Role of Nurse in Acute Phase

angels

1500 HOSPITALS | MAY 2019

The main causes of death 10 years after first Stroke.

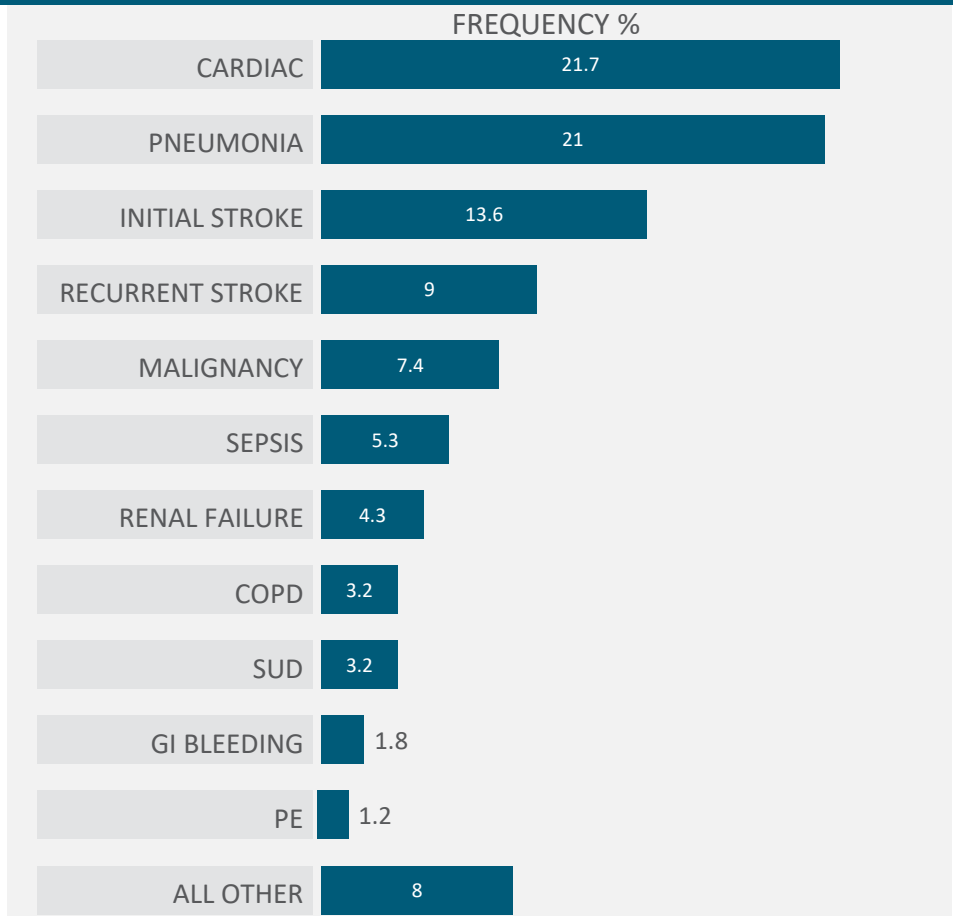
CAUSES OF DEATH IN STROKE PATIENTS DURING 10 YEARS OF FOLLOW-UP, 310 DEATHS OCCURRED AMONG 444 CI PATIENTS

CAUSE OF DEATH AFTER FIRST CI. DURING 10 YEARS OF FOLLOW-UP, 310 DEATHS OCCURRED AMONG 444 CI PATIENTS.

IDENTIFIED CAUSES OF DEATH ARE SHOWN IN ORDER OF FREQUENCY.

“CARDIAC” DEATH INCLUDES FATAL MYOCARDIAL INFARCTION, FATAL ARRHYTHMIA, AND CONGESTIVE HEART FAILURE.

COPD INDICATES CHRONIC OBSTRUCTIVE PULMONARY DISEASE; SUD, SUDDEN UNEXPECTED; GI BLEEDING, FATAL GASTROINTESTINAL TRACT BLEEDING; PE, FATAL PULMONARY EMBOLISM.



Stroke. 2003;34:1828-1832

Phases of acute stroke treatment

TREATMENT OF ACUTE STROKE PATIENTS CAN BE DIVIDED INTO FOUR PHASES EACH WITH ITS OWN PRIMARY OBJECTIVES AND THERAPEUTIC FOCUS

1. **PRE-HOSPITAL PHASE**
   FROM SYMPTOM ONSET TO HOSPITAL DOOR
2. **HYPER ACUTE PHASE**
   DOOR – HOUR 1
3. **ACUTE PHASE**
   1 – 24 HOURS AFTER ADMISSION
4. **POST-ACUTE PHASE**
   24 – 72 HOURS AFTER ADMISSION

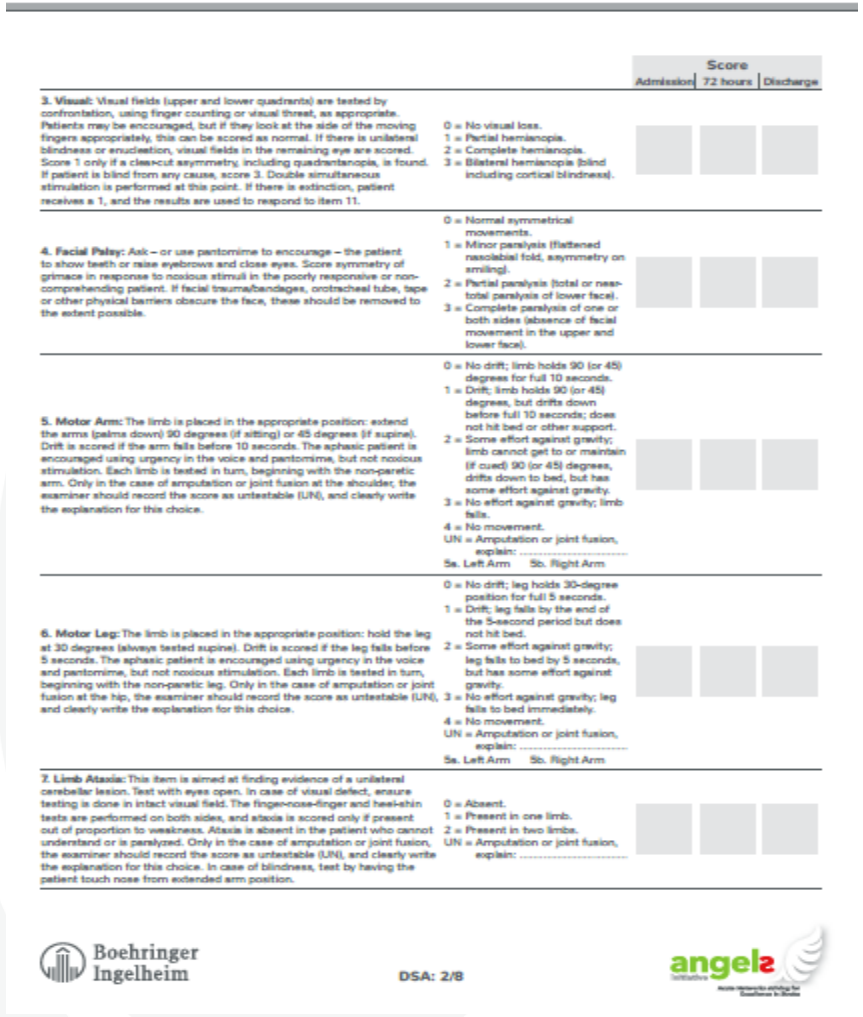
3 ACUTE PHASE

1 – 24 HOURS AFTER ADMISSION

DURING THE ACUTE PHASE THE PATIENT IS STILL AT RISK FROM THE CEREBRAL INFARCTION AS A RESULT THE NEUROLOGICAL STATUS NEEDS TO BE MONITORED CLOSELY FOR DETERIORATION OF SYMPTOMS.

THE FOCUS NOW STARTS SHIFTING TO REDUCING THE RISK OF DEATH AS A RESULT OF **CARDIAC OR RESPIRATORY CAUSES.**

NIHSS Training



		Score		
		Admission	72 hours	Discharge
3. Visual: Visual fields (upper and lower quadrants) are tested by confrontation, using finger counting or visual threat, as appropriate. Patients may be encouraged, but if they look at the side of the moving fingers appropriately, this can be scored as normal. If there is unilateral blindness or enucleation, visual fields in the remaining eye are scored. Score 1 only if a clear-cut asymmetry, including quadrantanopia, is found. If patient is blind from any cause, score 3. Double simultaneous stimulation is performed at this point. If there is extinction, patient receives a 1, and the results are used to respond to item 11.	0 = No visual loss. 1 = Partial hemianopia. 2 = Complete hemianopia. 3 = Bilateral hemianopia (blind including cortical blindness).			
4. Facial Palsy: Ask – or use pantomime to encourage – the patient to show teeth or raise eyebrows and close eyes. Score symmetry of grimace in response to noxious stimuli in the poorly responsive or non-comprehending patient. If facial trauma/bandages, orotracheal tube, tape or other physical barriers obscure the face, these should be removed to the extent possible.	0 = Normal symmetrical movements. 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 (absence of facial movement in the upper and lower face).			
5. Motor Arm: The limb is placed in the appropriate position: extend the arms (palms down) 90 degrees (if sitting) or 45 degrees (if supine). Drift is scored if the arm falls before 10 seconds. The aphasic patient is encouraged using urgency in the voice and pantomime, but not noxious stimulation. Each limb is tested in turn, beginning with the non-paretic arm. Only in the case of amputation or joint fusion at the shoulder, the examiner should record the score as untestable (UN), and clearly write the explanation for this choice.	0 = No drift; limb holds 90 (or 45) degrees for full 10 seconds. 1 = Drift; limb holds 90 (or 45) degrees, but drifts down before full 10 seconds; does not hit bed or other support. 2 = Some effort against gravity; limb cannot get to or maintain (if cued) 90 (or 45) degrees, drifts down to bed, but has some effort against gravity. 3 = No effort against gravity; limb falls. 4 = No movement. UN = Amputation or joint fusion, explain: ..... 5a. Left Arm 5b. Right Arm			
6. Motor Leg: The limb is placed in the appropriate position: hold the leg at 30 degrees (always tested supine). Drift is scored if the leg falls before 5 seconds. The aphasic patient is encouraged using urgency in the voice and pantomime, but not noxious stimulation. Each limb is tested in turn, beginning with the non-paretic leg. Only in the case of amputation or joint fusion at the hip, the examiner should record the score as untestable (UN), and clearly write the explanation for this choice.	0 = No drift; leg holds 30-degree position for full 5 seconds. 1 = Drift; leg falls by the end of the 5-second period but does not hit bed. 2 = Some effort against gravity; leg falls to bed by 5 seconds, but has some effort against gravity. 3 = No effort against gravity; leg falls to bed immediately. 4 = No movement. UN = Amputation or joint fusion, explain: ..... 5a. Left Arm 5b. Right Arm			
7. Limb Ataxia: This item is aimed at finding evidence of a unilateral cerebellar lesion. Test with eyes open. In case of visual defect, ensure testing is done in intact visual field. The finger-nose-finger and heel-shin tests are performed on both sides, and ataxia is scored only if present out of proportion to weakness. Ataxia is absent in the patient who cannot understand or is paralyzed. Only in the case of amputation or joint fusion, the examiner should record the score as untestable (UN), and clearly write the explanation for this choice. In case of blindness, test by having the patient touch nose from extended arm position.	0 = Absent. 1 = Present in one limb. 2 = Present in two limbs. UN = Amputation or joint fusion, explain:			

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DSA: 2/8

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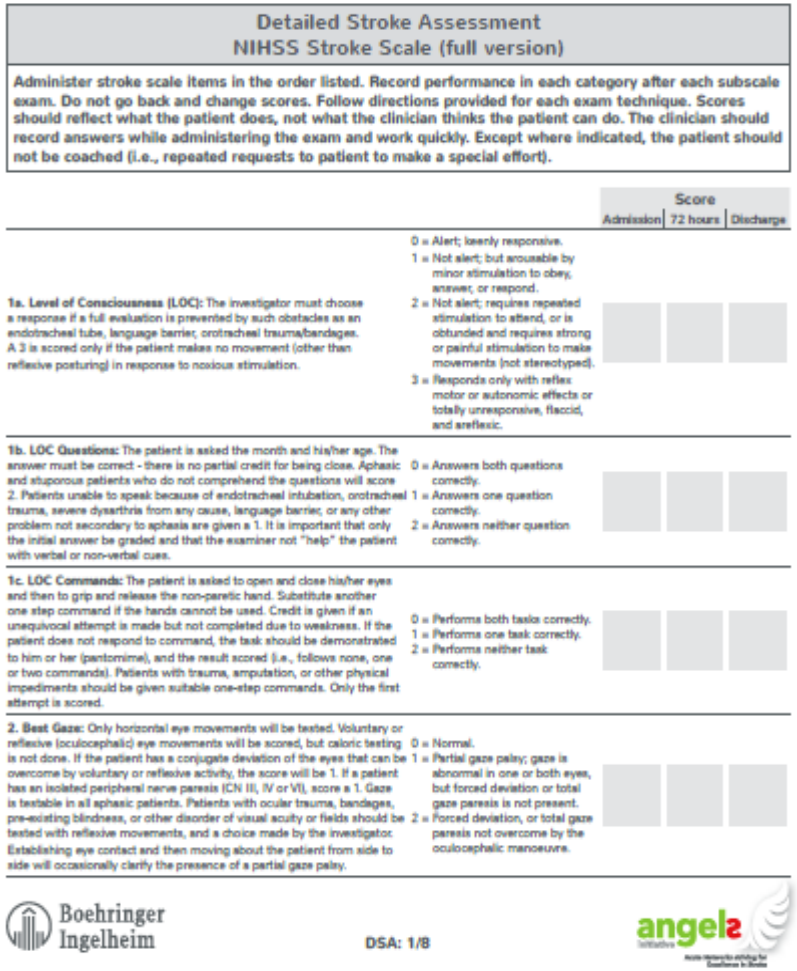

Detailed Stroke Assessment
NIHSS Stroke Scale (full version)

Administer stroke scale items in the order listed. Record performance in each category after each subscale exam. Do not go back and change scores. Follow directions provided for each exam technique. Scores should reflect what the patient does, not what the clinician thinks the patient can do. The clinician should record answers while administering the exam and work quickly. Except where indicated, the patient should not be coached (i.e., repeated requests to patient to make a special effort).

		Score		
		Admission	72 hours	Discharge
1a. Level of Consciousness (LOC): The investigator must choose a response if a full evaluation is prevented by such obstacles as an endotracheal tube, language barrier, orotracheal trauma/bandages. A 3 is scored only if the patient makes no movement (other than reflexive posturing) in response to noxious stimulation.	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 or painful stimulation to make movements (not stereotyped). 3 = Responds only with reflex motor or autonomic effects or totally unresponsive, flaccid, and areflexic.			
1b. LOC Questions: The patient is asked the month and his/her age. The answer must be correct - there is no partial credit for being close. Aphasic and stuporous patients who do not comprehend the questions will score 2. Patients unable to speak because of endotracheal intubation, orotracheal trauma, severe dysarthria from any cause, language barrier, or any other problem not secondary to aphasia are given a 1. It is important that only the initial answer be graded and that the examiner not "help" the patient with verbal or non-verbal cues.	0 = Answers both questions correctly. 1 = Answers one question correctly. 2 = Answers neither question correctly.			
1c. LOC Commands: The patient is asked to open and close his/her eyes and then to grip and release the non-paretic hand. Substitute another one step command if the hands cannot be used. Credit is given if an unequivocal attempt is made but not completed due to weakness. If the patient does not respond to command, the task should be demonstrated to him or her (pantomime), and the result scored (i.e., follows none, one or two commands). Patients with trauma, amputation, or other physical impediments should be given suitable one-step commands. Only the first attempt is scored.	0 = Performs both tasks correctly. 1 = Performs one task correctly. 2 = Performs neither task correctly.			
2. Best Gaze: Only horizontal eye movements will be tested. Voluntary or reflexive (oculocephalic) eye movements will be scored, but caloric testing is not done. If the patient has a conjugate deviation of the eyes that can be overcome by voluntary or reflexive activity, the score will be 1. If a patient has an isolated peripheral nerve paresis (CN III, IV or VI), score a 1. Gaze is testable in all aphasic patients. Patients with ocular trauma, bandages, pre-existing blindness, or other disorder of visual acuity or fields should be tested with reflexive movements, and a choice made by the investigator. Establishing eye contact and then moving about the patient from side to side will occasionally clarify the presence of a partial gaze palsy.	0 = Normal. 1 = Partial gaze palsy; gaze is abnormal in one or both eyes, but forced deviation or total gaze paresis is not present. 2 = Forced deviation, or total gaze paresis not overcome by the oculocephalic manoeuvre.			

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DSA: 1/8

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General Stroke Treatment

CONTENT
MONITORING
PULMONARY AND AIRWAY CARE
FLUID BALANCE
BLOOD PRESSURE
GLUCOSE METABOLISM
BODY TEMPERATURE

Guidelines Ischaemic Stroke 2008

Monitoring

CONTINUOUS MONITORING

- HEART RATE
- BREATHING RATE
- O_2 SATURATION

DISCONTINUOUS MONITORING

- BLOOD PRESSURE
- BLOOD GLUCOSE
- VIGILANCE (GCS), PUPILS
- NEUROLOGICAL STATUS
  (E.G. NIH STROKE SCALE OR SCANDINAVIAN STROKE SCALE)

Guidelines Ischaemic Stroke 2008

Pulmonary function

BACKGROUND
ADEQUATE OXYGENATION IS IMPORTANT
IMPROVE BLOOD OXYGENATION BY ADMINISTRATION OF > 2 L O_2
RISK FOR ASPIRATION IN PATIENTS WITH SIDE POSITIONING
HYPOVENTILATION MAY BE CAUSED BY PATHOLOGICAL RESPIRATION PATTERN
RISK OF AIRWAY OBSTRUCTION (VOMITING, OROPHARYNGEAL MUSCULAR HYPOTONIA): MECHANICAL AIRWAY PROTECTION

Guidelines Ischaemic Stroke 2008

Blood pressure

BACKGROUND

ELEVATED IN MOST PATIENTS WITH ACUTE STROKE

BP DROPS SPONTANEOUSLY DURING THE FIRST DAYS AFTER STROKE

BLOOD FLOW IN THE CRITICAL PENUMBRA PASSIVELY DEPENDENT ON THE MEAN ARTERIAL PRESSURE

THERE ARE NO ADEQUATELY SIZED RANDOMISED, CONTROLLED STUDIES GUIDING BP MANAGEMENT

AVOID DRASTIC REDUCTION IN BP

Guidelines Ischaemic Stroke 2008

Blood pressure

SPECIFIC ISSUES
ELEVATED BP (E.G. UP TO 200MMHG SYSTOLIC OR 110MMHG DIASTOLIC) MAY BE TOLERATED IN THE ACUTE PHASE OF ISCHAEMIC STROKE WITHOUT INTERVENTION
BP MAY BE LOWERED IF THIS IS REQUIRED BY CARDIAC CONDITIONS
UPPER LEVEL OF SYSTOLIC BP IN PATIENTS UNDERGOING THROMBOLYTIC THERAPY IS 180MMHG
AVOID AND TREAT HYPOTENSION
AVOID DRASTIC REDUCTION IN BP

Guidelines Ischaemic Stroke 2008

Glucose metabolism

BACKGROUND

HIGH GLUCOSE LEVELS IN ACUTE STROKE MAY INCREASE THE SIZE OF THE INFARCTION AND REDUCE FUNCTIONAL OUTCOME

HYPOGLYCEMIA CAN MIMIC ACUTE ISCHAEMIC INFARCTION

ROUTINE USE OF GLUCOSE POTASSIUM INSULIN (GKI) INFUSION REGIMES IN PATIENTS WITH MILD TO MODERATE HYPERGLYCAEMIA DID NOT IMPROVE OUTCOME[1]

IT IS COMMON PRACTISE TO TREAT HYPERGLYCEMIA WITH INSULIN WHEN BLOOD GLUCOSE EXCEEDS 180MG/DL2 (10MMOL/L)

1: Gray CS et al.: Lancet Neurol (2007) 6:397-406
2: Langhorne P et al.: Age Ageing (2002) 31:365-71.
Guidelines Ischaemic Stroke 2008

Body temperature

BACKGROUND

FEVER IS ASSOCIATED WITH POORER NEUROLOGICAL OUTCOME AFTER STROKE

FEVER INCREASES INFARCT SIZE IN EXPERIMENTAL STROKE

MANY PATIENTS WITH ACUTE STROKE DEVELOP A FEBRILE INFECTION

THERE ARE NO ADEQUATELY SIZED TRIALS GUIDING TEMPERATURE MANAGEMENT AFTER STROKE IT IS COMMON PRACTICE TREAT FEVER (AND ITS CAUSE) WHEN THE TEMPERATURE REACHES 37.5°C

Guidelines Ischaemic Stroke 2008

General Stroke Treatment

RECOMMENDATIONS (1/4)

- Intermittent monitoring of neurological status, pulse, blood pressure, temperature and oxygen saturation is recommended for 72 hours in patients with significant persisting neurological deficits **(Class IV, GCP)**
- Oxygen should be administered if sPO2 falls below 95% **(Class IV, GCP)**
- Regular monitoring of fluid balance and electrolytes is recommended in patients with severe stroke or swallowing problems **(Class IV, GCP)**

General Stroke Treatment

RECOMMENDATIONS (2/4)

- Normal saline (0.9%) is recommended for fluid replacement during the first 24 hours after stroke **(Class IV, GCP)**
- Routine blood pressure lowering is not recommended following acute stroke **(Class IV, GCP)**
- Cautious blood pressure lowering is recommended in patients with any of the following; extremely high blood pressures (>220/120 mmHg) on repeated measurements, or severe cardiac failure, aortic dissection, or hyper-tensive encephalopathy **(Class IV, GCP)**

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General Stroke Treatment

RECOMMENDATIONS (3/4)

- Abrupt blood pressure lowering should be avoided **(Class II, Level C)**
- Low blood pressure secondary to hypovolaemia or associated with neurological deterioration in acute stroke should be treated with volume expanders **(Class IV GCP)**
- Monitoring serum glucose levels is recommended **(Class IV, GCP)**
- Treatment of serum glucose levels >180mg/dl (>10mmol/l) with insulin titration is recommended **(Class IV, GCP)**

General Stroke Treatment

RECOMMENDATIONS (4/4)

- Severe hypoglycaemia (<50 mg/dl [<2.8 mmol/l]) should be treated with intravenous dextrose or infusion of 10–20% glucose **(Class IV, GCP points)**
- The presence of pyrexia (temperature >37.5°C) should prompt a search for concurrent infection **(Class IV, GCP)**
- Treatment of pyrexia (>37.5°C) with paracetamol and fanning is recommended **(Class III, Level C)**
- Antibiotic prophylaxis is not recommended in immunocompetent patients **(Class II, Level B)**

Guidelines Ischaemic Stroke 2008

Aim:Organized Stroke Care System To..