



ADVANCED STROKE LIFE SUPPORT

STUDENT STROKE SCALE CHECKLISTS

BEFAST Stroke Scale Checklist				
	Normal	Abnormal		
Balance: Have the patient perform finger-to-nose	and ask questions.			
Normal—able to smoothly move finger from nose Abnormal—ataxia or dysmetria on movement Ask patient about trouble walking, dizziness, or lo				
Eyes: Ask questions and check for gaze deviation.				
Normal—no new vision abnormalities Abnormal—loss of vision in one or both eyes, blurry or double vision, gaze deviation				
Facial droop: Have the patient show teeth or smil	e.			
Normal—both sides of the face move equally/symmetric Abnormal—one side of the face does not move as well as the other side				
Arm drift: Have the patient close eyes and extend	l both arms straight out, with palms up, for	10 seconds.		
Normal—both arms move the same or both arms do not move at all (other findings, such as pronator drift, may be helpful) Abnormal—one arm does not move or one arm drifts down compared with the other				
Speech: Have the patient say, "You can't teach an	old dog new tricks."			
<i>Normal</i> —patient uses correct words with no slurr <i>Abnormal</i> —patient slurs words, uses the wrong w	-			
Time: Ask the patient or witnesses when symptoms began or time of last known well.				
Record time of last known well.	Time:			
The BEFAST is a stroke screening exam. If any ab possibility of a stroke. A code stroke or stroke al		it means tha	at there is a	

Abbreviation: BEFAST, Balance, Eyes, Face, Arm, Speech, Time.

CPSS				
	Normal	Abnormal		
Facial droop: Have the patient show teeth or smile.				
<i>Normal</i> —both sides of the face move equally <i>Abnormal</i> —one side of the face does not move as well as the other side				
Arm drift: Have the patient close eyes and extend both arms straight out, with palms up, for 10 seconds.				
Normal—both arms move the same or both arms do not move at all (other findings, such as pronator drift, may be helpful) Abnormal—one arm does not move or one arm drifts down compared with the other				
Speech: Have the patient say, "You can't teach an old dog new tricks."	,			
Normal—patient uses correct words with no slurring Abnormal—patient slurs words, uses the wrong words, or is unable to speak				
The CPSS is a stroke screening exam. If any abnormality is found during the assessment, i possibility of a stroke. A code stroke or stroke alert should be activated.	t means that	there is a		

Abbreviation: CPSS, Cincinnati Prehospital Stroke Scale.

	C-STAT		
Finding	Positive if	Score	
Conjugate gaze deviation	Gaze is acutely impaired in 1 direction	2	
Level of consciousness	Fails 1 or more of each of the following:Ask age and current monthAsk to follow 2 commands: close eyes, open and close hands	1	
Arm weakness	When held up, one or both arms drift down to bed within 10 seconds	1	
	Total score (0-4)		
Possible scores of the C-STAT range from 0 to 4. A score of 2 or greater is the suggested cutoff for suspected large vessel occlusion stroke triage.			

Abbreviation: C-STAT, Cincinnati Stroke Triage Assessment Tool.

Katz BS, McMullan JT, Sucharew H, Adeoye O, Broderick JP. Design and validation of a prehospital scale to predict stroke severity: Cincinnati Prehospital Stroke Severity Scale. *Stroke*. 2015 Jun;46(6):1508-12. doi: 10.1161/STROKEAHA.115.008804.

FAST		
	Normal	Abnormal
Facial droop: Have the patient show teeth or smile.		
Normal—both sides of the face move equally Abnormal—one side of the face does not move as well as the other side		
Arm drift: Have the patient close eyes and extends both arms straight out, with palms up, for	10 seconds.	
Normal—both arms move the same or both arms do not move at all (other findings, such as pronator drift, may be helpful) Abnormal—one arm does not move or one arm drifts down compared with the other		
Speech: Have the patient say, "You can't teach an old dog new tricks."		
Normal—patient uses correct words with no slurring Abnormal—patient slurs words, uses the wrong words, or is unable to speak		
Time: Ask the patient or witnesses when symptoms began or time last known well.		
Record time of last known well.	Time:	
The FAST is a stroke screening exam. If any abnormality is found during the assessment, it m possibility of a stroke. A code stroke or stroke alert should be activated.	ieans that t	here is a

Abbreviation: FAST, Face, Arm, Speech, Time.

FAST-ED	
Item	FAST-ED score
Facial palsy	1
Normal or minor paralysis	0
Partial or complete paralysis	1
Arm weakness	
No drift	0
Drift or some effort against gravity	1
No effort against gravity or no movement	2
Speech changes	
Absent	0
Mild to moderate	1
Severe, global aphasia or mute	2
Eye deviation	
Absent	0
Partial	1
Forced deviation	2
Denial/Neglect	
Absent	0
Extinction to bilateral simultaneous stimulation in only one sensory modality	1
Does not recognize own hand or orients only to one side of the body	2
Total score (0-9)	

vessel occlusion stroke triage.

Abbreviation: FAST-ED, Field Assessment Stroke Triage for Emergency Destination.

Lima FO, Silva GS, Furie KL, et al. Field Assessment Stroke Triage for Emergency Destination: A Simple and Accurate Prehospital Scale to Detect Large Vessel Occlusion Strokes. *Stroke*. 2016 Aug;47(8):1997-2002. doi: 10.1161/STROKEAHA.116.013301.

LAMS	
LAMS assessment criteria	Score
Facial droop	
Absent	0
Present	1
Arm drift	
Absent	0
Drifts down	1
Falls rapidly	2
Grip strength	·
Normal	0
Weak grip	1
No grip	2
Total score	e (0-5)
Possible scores of the LAMS range from 0 to 5. A score of 4 or greater is recommended for large v	vessel occlusion triage

Abbreviation: LAMS, Los Angeles Motor Scale.

Nazliel B, Starkman S, Liebeskind DS, et al. A brief prehospital stroke severity scale identifies ischemic stroke patients harboring persisting large arterial occlusions. *Stroke*. 2008 Aug;39(8):2264-7. doi: 10.1161/STROKEAHA.107.508127.

LAPSS				
Screening criteria				
			Yes	No
Age over 45 years				
No prior history of seizure disorder				
New onset of neurologic symptoms in last 24 hours				
Patient was ambulatory at baseline (before event)				
Blood glucose between 60 and 400				
Exam: Look for obvious asymmetry				
	Normal	Right	Le	ft
Facial smile/grimace		Droop	Droo	р
Grip		Weak grip No grip	Weak No gr	
Arm weakness		Drifts down Falls rapidly		down rapidly
Based on exam				
			Yes	No
Patient has only unilateral (and not bilateral) weakness				
If yes (or unknown) to all items above, LAPSS screening criteria met				
If LAPSS criteria for stroke are met, call receiving hospital with code appropriate treatment protocol. Note: The patient may still be experiencing a stroke even if LAPSS criteria.			en return	to the

Abbreviation: LAPSS, Los Angeles Prehospital Stroke Screen.

Kidwell CS, Starkman S, Eckstein M, Weems K, Saver JL. Identifying stroke in the field. Prospective validation of the Los Angeles prehospital stroke screen (LAPSS). *Stroke*. 2000 Jan;31(1):71-6. doi: 10.1161/01.str.31.1.71.

MEND Exam		
	Normal	Abnormal
Level of consciousness: Assess AVPU.	0	1
Speech: Have the patient say, "You can't teach an old dog new tricks."	0	1
Orientation questions: Ask the patient's age and the month.	0	1
Commands: Have the patient close and open eyes.	0	1

	Normal	Abnormal right	Abnormal left
Facial droop: Have the patient show teeth or smile.	0	1	1
Visual fields: Test vision in all 4 quadrants.	0	1	1
Horizontal gaze: Track eye movement.	0	1	1
Motor arm drift: Have the patient close eyes and extend both arms, with palms up, for 10 seconds.	0	1	1
Motor leg drift: Have the patient hold each leg up against gravity for 5 seconds.	0	1	1
Sensory arm: Have the patient close eyes and touch each arm.	0	1	1
Sensory leg: Have the patient close eyes and touch each leg.	0	1	1
Coordination arm: Have the patient perform finger-to-nose.	0	1	1
Coordination leg: Have the patient perform heel-to-shin.	0	1	1
Total score (0-22)			

The MEND exam can be used both as a screening exam and as a large vessel occlusion scale. When all of the abnormal findings are added up, a total score of 4 or more is the suggested cutoff for suspected large vessel occlusion stroke triage.

Abbreviations: AVPU, Alert, Verbal, Pain, Unresponsive; MEND, Miami Emergency Neurological Deficit.

Reproduced from Motola I, Brotons AA, Rodriguez RD, Marulanda-Londoño E, Li H, Rivera HF, et al. Prospective validation of the Miami emergency neurologic deficit (MEND) exam for detection of stroke. Stroke. 2018;49(suppl 1):AWP232. doi: 10.1161/str.49.suppl_1.WP232

MEND Exam			
		Normal	Abnormal
Level of consciousness: Assess AVPU.		1	I
Normal—Alert Abnormal—Verbal (responsive to verbal stimuli), Pain (responsive only to painful Unresponsive	stimuli),	0	1
Speech: Have the patient say, "You can't teach an old dog new tricks."			
Normal—patient uses correct words with no slurring Abnormal—patient slurs words, uses the wrong words, or is unable to speak		0	1
Orientation questions: Ask the patient's age and the month.			
Normal—patient is able to correctly state their age and the current month Abnormal—patient is disoriented to their age or the month		0	1
Commands: Have the patient close and open eyes.			
<i>Normal</i> —patient is able to follow the commands to close and then open their eyes <i>Abnormal</i> —patient is unable to follow commands			1
	Normal	Abnormal right	Abnorma left
Facial droop: Have the patient show teeth or smile.	-		
<i>Normal</i> —both sides of the face move equally <i>Abnormal</i> —one side of the face does not move as well as the other side	0	1	1
Visual fields: Test vision in all 4 quadrants.		1	<u>I</u>
Normal—able to identify movement or fingers in all 4 quadrants Abnormal—visual field cut (eg, hemianopia or quadrantanopia)	0	1	1
Horizontal gaze: Track eye movement.	÷		
Normal—patient is able to follow finger to both sides Abnormal—patient has a fixed gaze deviation or is unable to move eyes to one side	0	1	1
Motor arm drift: Have the patient close eyes and extend both arms, with palms	up, for 10 se	conds.	
Normal—able to hold both arms up for 10 seconds	0	1	1
Abnormal—one arm does not move or one arm drifts down			
Abnormal—one arm does not move or one arm drifts down Motor leg drift: Have the patient hold each leg up against gravity for 5 seconds.			

MEND Exam			
Sensory arm: Have the patient close eyes and touch each arm.			
<i>Normal</i> —patient is able to feel touch on both arms <i>Abnormal</i> —patient unable to feel touch on one or both arms	0	1	1
Sensory leg: Have the patient close eyes and touch each leg.		·	
Normal—patient is able to feel touch on both arms Abnormal—patient unable to feel touch on one or both arms	0	1	1
Coordination arm: Have the patient perform finger-to-nose.			
Normal—patient is able to touch their nose and the examiner's finger on both sides with no ataxia/dysmetria Abnormal—patient has ataxia or dysmetria on one or both sides	0	1	1
Coordination leg: Have the patient perform heel-to-shin.			
Normal—patient is able to move their heel down their shin with no ataxia/ dysmetria Abnormal—patient has ataxia or dysmetria on one or both sides	0	1	1
Total score (0-22)			
The MEND exam can be used both as a screening exam and as a large vessel occlusion scale. When all of the abnormal findings are added up, a total score of 4 or more is the suggested cutoff for suspected large vessel occlusion stroke triage.			

Abbreviations: AVPU, Alert, Verbal, Pain, Unresponsive; MEND, Miami Emergency Neurological Deficit.

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NIHSS			
Category	Points	Status	Score
1a. LOC (Alert, drowsy, etc)	0 = 1 = 2 = 3 =	Alert Drowsy Stuporous Coma	
1b. LOC questions (Month, age)	0 = 1 = 2 =	Answers both correctly Answers one correctly Incorrect	
1c. LOC commands (Open/close eyes, make fist and let go)	0 = 1 = 2 =	Obeys both correctly Obeys one correctly Incorrect	
2. Best gaze (Eyes open; patient follows examiner's fingers or face)	0 = 1 = 2 =	Normal Partial gaze palsy Forced deviation	
 3. Visual (Introduce visual stimulus/threat to patient visual field quadrants. Cover one eye and hold up fingers in all 4 quadrants.) 	0 = 1 = 2 = 3 =	No visual loss Partial hemianopsia Complete hemianopsia Bilateral hemianopsia	
4. Facial palsy (Show teeth, raise eyebrows, and squeeze eyes tightly shut.)	0 = 1 = 2 = 3 =	Normal Minor Partial Complete	
5a. Motor arm left (Elevate extremity to 90 degrees and score drift/movement. Count to 10 out loud, and use fingers for visual cue.)	0 = 1 = 2 = 3 = 4 = NT =	No drift Drift Can't resist gravity No effort against gravity No movement Amputation, joint fusion (explain)	
5b. Motor arm right (Elevate extremity to 90 degrees and score drift/movement. Count to 10 out loud, and use fingers for visual cue.)	0 = 1 = 2 = 3 = 4 = NT =	No drift Drift Can't resist gravity No effort against gravity No movement Amputation, joint fusion (explain)	
6a. Motor leg left (Elevate extremity to 30 degrees and score drift/movement. Count to 5 out loud, and use fingers for visual cue.)	0 = 1 = 2 = 3 = 4 = NT =	No drift Drift Can't resist gravity No effort against gravity No movement Amputation, joint fusion	

(continued)

NIHSS		
6b. Motor leg right (Elevate extremity to 30 degrees and score drift/movement. Count to 5 out loud, and use fingers for visual cue.)	0 = 1 = 2 = 3 = 4 = NT =	No drift Drift Can't resist gravity No effort against gravity No movement Amputation, joint fusion (explain)
7. Limb ataxia (Finger to nose, heel down shin)	0 = 1 = 2 =	Absent Present in 1 limb Present in 2 limbs
8. Sensory (Pin prick to face, arms, trunk, and legs; compare sharpness side to side, or no feeling at all)	0 = 1 = 2 =	Normal Partial loss Severe loss
9. Best language (Name items, describe picture, and read sentences. Don't forget glasses if they normally wear them.)	0 = 1 = 2 = 3 =	No aphasia Mild to moderate aphasia Severe aphasia Mute
10. Dysarthria (Evaluate speech clarity by patient reading or repeating words on list.)	0 = 1 = 2 = NT =	Normal articulation Mild to moderate dysarthria Near to unintelligible or worse Intubated or other physical barrier
11. Extinction and inattention (Use information from prior testing or double simultaneous stimuli testing to identify neglect [face, arms, legs, and visual fields].)	0 = 1 = 2 =	No neglect Partial neglect Complete neglect
		Total score (0-42)

Abbreviations: LOC, Level Of Consciousness; NIHSS, National Institutes of Health Stroke Scale; NT, Not Testable.

Created by the National Institutes of Health, National Institute of Neurological Disorders and Strokes.

Item	RACE score
Facial palsy	I
Absent	0
Mild	1
Moderate to severe	2
Arm motor function	
Normal to mild	0
Moderate	1
Severe	2
Leg motor function	· · ·
Normal to mild	0
Moderate	1
Severe	2
Head and gaze deviation	
Absent	0
Present	1
Aphasia* (if right hemiparesis)	
Performs both tasks correctly	0
Performs 1 task correctly	1
Performs neither task	2
Agnosia ⁺ (if left hemiparesis)	
Patient recognizes their own arm and the impairment	0
Does not recognize their own arm or does not recognize the impairment	1
Does not recognize their own arm and does not recognize the impairment	2
Total score	e (0-9)

Abbreviation: RACE, Rapid Arterial Occlusion Evaluation.

*Aphasia: Tell the patient to (1) close their eyes and (2) make a fist. Evaluate how the patient obeys. [†]Agnosia: Ask the patient (1) "Whose arm is this?" while showing them the paretic arm, and evaluate whether the patient recognizes their own arm. Then, ask (2) "Can you lift both arms and clap?" Evaluate whether the patient recognizes their functional impairment.

Pérez de la Ossa N, Carrera D, Gorchs M, et al. Design and validation of a prehospital stroke scale to predict large arterial occlusion: the rapid arterial occlusion evaluation scale. *Stroke*. 2014 Jan;45(1):87-91. doi: 10.1161/STROKEAHA.113.003071.

ROSIER Score				
ROSIER assessment criteria		Score		
	Yes	No		
Has there been loss of consciousness or syncope?	1	0		
Has there been seizure activity?	1	0		
Has there been new acute onset (including on waking from sleep) of Asymmetric facial weakness?	1	0		
Asymmetric arm weakness?	1	0		
Asymmetric leg weakness?	1	0		
Speech disturbance?	1	0		
Visual field defect?	1	0		
Total score (-2 to 5)				

alert should be activated. Scores of 0 or less have low probability of stroke but are not excluded.

Abbreviation: ROSIER, Recognition of Stroke in the Emergency Room.

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sNIHSS-5			
Category	Points	Status	Score
2. Best gaze (Eyes open; patient follows examiner's fingers or face.)	0 = 1 = 2 =	Normal Partial gaze palsy Forced deviation	
3. Visual (Introduce visual stimulus/threat to patient visual field quadrants. Cover one eye and hold up fingers in all 4 quadrants.)	0 = 1 = 2 = 3 =	No visual loss Partial hemianopsia Complete hemianopsia Bilateral hemianopsia	
6a. Motor leg left (Elevate extremity to 30 degrees and score drift/movement. Count to 5 out loud, and use fingers for visual cue.)	0 = 1 = 2 = 3 = 4 = NT =	No drift Drift Can't resist gravity No effort against gravity No movement Amputation, joint fusion	
6b. Motor leg right (Elevate extremity to 30 degrees and score drift/movement. Count to 5 out loud, and use fingers for visual cue.)	0 = 1 = 2 = 3 = 4 = NT =	No drift Drift Can't resist gravity No effort against gravity No movement Amputation, joint fusion (explain)	
9. Best language (Name items, describe picture, and read sentences. Don't forget glasses if they normally wear them.)	0 = 1 = 2 = 3 =	No aphasia Mild to moderate aphasia Severe aphasia Mute	
		Total score (0-16)	

Abbreviations: sNIHSS, shortened National Institutes of Health Stroke Scale; NT, Not Testable.

Tirschwell DL, Longstreth WT Jr, Becker KJ, et al. Shortening the NIH Stroke scale for use in the prehospital setting. *Stroke*. 2002 Dec;33(12):2801-6. doi: 10.1161/01.str.0000044166.28481.bc.

sNIHSS-8			
Category	Points	Status	Score
1a. LOC (Alert, drowsy, etc)	0 = 1 = 2 = 3 =	Alert Drowsy Stuporous Coma	
2. Best gaze (Eyes open; patient follows examiner's fingers or face.)	0 = 1 = 2 =	Normal Partial gaze palsy Forced deviation	
3. Visual (Introduce visual stimulus/threat to patient visual field quadrants. Cover one eye and hold up fingers in all 4 quadrants.)	0 = 1 = 2 = 3 =	No visual loss Partial hemianopsia Complete hemianopsia Bilateral hemianopsia	
4. Facial palsy (Show teeth, raise eyebrows, and squeeze eyes tightly shut.)	0 = 1 = 2 = 3 =	Normal Minor Partial Complete	
6a. Motor leg left (Elevate extremity to 30 degrees and score drift/movement. Count to 5 out loud, and use fingers for visual cue.)	0 = 1 = 2 = 3 = 4 = NT =	No drift Drift Can't resist gravity No effort against gravity No movement Amputation, joint fusion	
6b. Motor leg right (Elevate extremity to 30 degrees and score drift/movement. Count to 5 out loud, and use fingers for visual cue.)	0 = 1 = 2 = 3 = 4 = NT =	No drift Drift Can't resist gravity No effort against gravity No movement Amputation, joint fusion (explain)	
9. Best language (Name items, describe picture, and read sentences. Don't forget glasses if they normally wear them.)	0 = 1 = 2 = 3 =	No aphasia Mild to moderate aphasia Severe aphasia Mute	
10. Dysarthria (Evaluate speech clarity by patient reading or repeating words on list.)	0 = 1 = 2 = NT =	Normal articulation Mild to moderate dysarthria Near to unintelligible or worse Intubated or other physical barrier	
		Total score (0-24)	

Abbreviations: LOC, Level Of Consciousness; sNIHSS, shortened National Institutes of Health Stroke Scale; NT, Not Testable.

Tirschwell DL, Longstreth WT Jr, Becker KJ, et al. Shortening the NIH Stroke scale for use in the prehospital setting. *Stroke*. 2002 Dec;33(12):2801-6. doi: 10.1161/01.str.0000044166.28481.bc.

VAN Emergent Large Vessel Occlusion Screening Tool VAN assessment criteria		
/isual disturbance Field cut (which side) (4 quadrants) Double vision (ask patient to look to right then left; evaluate for uneven eyes) Blind new onset None		
Aphasia Expressive (inability to speak or paraphasic errors); do not count slurring of words (repeat and name 2 objects) Receptive (not understanding or following commands) (close eyes, make fist) Mixed None		
Neglect Forced gaze or inability to track to one side Unable to feel both sides at the same time, or unable to identify own arm Ignoring one side None		

Abbreviation: VAN, Vision, Aphasia, Neglect.

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