

Stroke timeline:				
Paged:	Bedside:	Exam:	CT:	TNK:
Last Known Well:				
First time seen with deficits:				
Past medical history (AFib - DM – HTN – Other):				
Past surgical history: any recent surgery?				
Medications: Antiplatelets? Anticoagulants?		Other home meds?		
Allergy to contrast?				
1a. Level of Consciousness (LOC)	Alert (or awakens easily and stays awake)	0		
	Drowsy (Not alert, requires minor stimulation)	1		
	Obtunded (Requires repeated stimulation or painful stimulation)	2		
	Comatose (no or only reflexive movement to pain)	3		
1b. LOC- Questions Month? Age?	Both correct 0 - One answer correct 1 - Neither question answered correctly 2 - Can't answer due to aphasia 2 - Dysarthric or intubated 1			
1c. LOC- Commands Opens/closes eyes - Opens/closes hands	Both correct 0 - One correct 1 - Neither performed correctly 2 If can't understand, you can demonstrate it.			
2. Eye Movements: Horizontal eye movements	Normal 0 - partial palsy (can cross midline) 1 - Complete (can't cross midline) 2 - Aphasic or confused, use tracking - Unconscious, use oculocephalic Rx			
3. Visual fields:	Normal 0 - Partial hemianopia 1 - Complete hemianopia 2 - Bilateral hemianopia 3 - Unilateral blindness (CRAO) doesn't score points 0			
4. Facial:	Normal 0 Minor paralysis (flattening of nasolabial folds) 1 Partial paralysis (near or total paralysis lower face) 2 Complete paralysis (Of upper and lower face) 3			
5a. Motor – Left Arm Hold arm straight out from chest Amputation or joint fusion (N/A)	Normal (No drift at all) 0 Drift (Drifts downward but NOT to bed before 10 sec.) 1 Drifts to bed within 10 sec 2 Movement, but not against gravity 3 Complete paralysis (No movement at all) 4			
5b. Motor – Right Arm Hold arm straight out from chest Amputation or joint fusion (N/A)	Normal (No drift at all) 0 Drift (Drifts downward but NOT to bed before 10 sec.) 1 Drifts to bed within 10 sec 2 Movement, but not against gravity 3 Complete paralysis (No movement at all) 4			
6a. Motor – Left leg Keep leg off bed Amputation or joint fusion (N/A)	Normal (No drift at all) 0 Drift (Drifts downward but NOT to bed before 5 sec.) 1 Drifts to bed within 5 sec 2 Movement, but not against gravity 3 Complete paralysis (No movement at all) 4			
6b. Motor – Right leg Keep leg off bed Amputation or joint fusion (N/A)	Normal (No drift at all) 0 Drift (Drifts downward but NOT to bed before 5 sec.) 1 Drifts to bed within 5 sec 2 Movement, but not against gravity 3 Complete paralysis (No movement at all) 4			
7. Limb Ataxia: Finger-Nose - Heel-Shin Must be out of proportion of weakness	Absent 0 - In one limb 1 - In two limbs 2 - If completely paralyzed, scores 0			
8. Sensory : (Test on face, arm & thigh)	Normal 0 - Mild to moderate loss 1 - Severe (unaware of being touched) 2			
9. Language/Aphasia Repetition & Comprehension "Today is a bright sunny day"	Normal ability use words and follow commands 0 Mild to Moderate (Repeats / names with some difficulty) 1 Severe Aphasia (very few words correct or understood) 2 Mute (no ability to speak or understand at all) 3			
10. Dysarthria	Normal 0 Mild to moderate 1 Severe (none understandable) 2 Intubated or other physical barrier (N/A)			
11. Neglect : Ignores touch or vision	Normal 0 - Mild (partial) 1 - Profound (Visual and tactile – complete) 2			
Total Score	0 = Best, 42 = Worst			

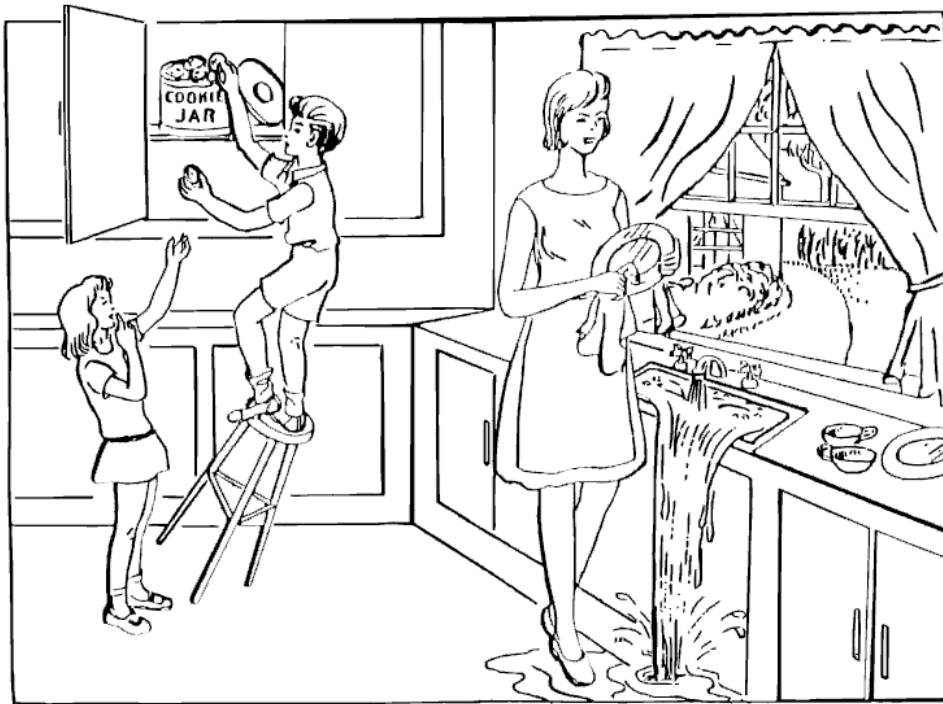
ICH Scale							
GCS:	Volume:	IVH:	Infratentorial:	Age:			
3-4: 2 points	≥30: 1 point	Yes: 1 point	Yes: 1 point	≥80: 1 point			
5-12: 1 point	<30: 0 points	No: 0 points	No: 0 points	<80: 0 point			
13-15: 0 points							

Hunt and Hess scale		Survival
1	Asymptomatic, mild headache, slight nuchal rigidity	70%
2	Moderate to severe headache, nuchal rigidity, no neurologic deficit other than CN palsy	60%
3	Drowsiness / confusion, mild focal neurologic deficit	50%
4	Stupor, moderate-severe hemiparesis	20%
5	Coma, decerebrate posturing	10%

Modified Fischer Grade score		
	Blood thickness	Intraventricular Hemorrhage
Grade 1:	Thin SAH (< 1mm)	IVH is absent
Grade 2:	Thick SAH (> 1mm)	IVH is present
Grade 3:	Thin SAH (< 1mm)	IVH is absent
Grade 4:	Thick SAH(> 1mm)	IVH is present

Contraindications

Imaging	CT head with intracranial hemorrhage
	CT head with extensive regions of hypoattenuation (large infarct already established)
History	Intracranial aneurysm (although recent studies showed safety with aneurysm < 10mm)
	Intracranial neoplasm
	Heavy burden microbleeds on prior imaging (> 10 microbleeds)
	Known intracranial AVM (if severely disabling stroke, TNK may be considered)
Clinical	Intracranial dissection (safety is not well established)
	History of prior intracranial hemorrhage (ICH, SAH or SDH)
	History of prior stroke within past 3 months
	History of severe head trauma within past 3 months
Drugs	History of intracranial or intraspinal surgery within past 3 months
	History of recent GI bleeding within past 21 days (TNK potentially harmful)
	History of structural GI malignancy (TNK potentially harmful)
	Known or suspected aortic arch dissection
Labs	Suspected stroke due to infective endocarditis
	BP > 185/110 -> It has to be lowered first
	Heparin use within 48h with elevated aPTT > 40
	LMWH in therapeutic dose within 24h
3 – 4.5h window	Warfarin use with INR > 1.7 or PT > 15
	NOAGs use within 48 hours unless Xa activity is normal
	Known platelet count < 100,000, PT>15, aPTT>40 or INR>1.7
	Blood glucose < 50 or >400, it has to be corrected first
Wake Up	Exclusion criteria for 3-4.5 hour window:
	Age > 80
	NOAG use even if labs are normal
	Warfarin use even if INR < 1.7
Exclusion criteria for wake-up stroke, onset > 4.5 hour with MRI mismatch:	NIHSS > 25
	Large infarct (>1/3 cerebral hemisphere)
	Same as 3 - 4.5 hours criteria +
	DW lesion > third MCA territory
Planned thrombectomy	



**MAMA
TIP – TOP
FIFTY – FIFTY
THANKS
HUCKLEBERRY
BASEBALL PLAYER**

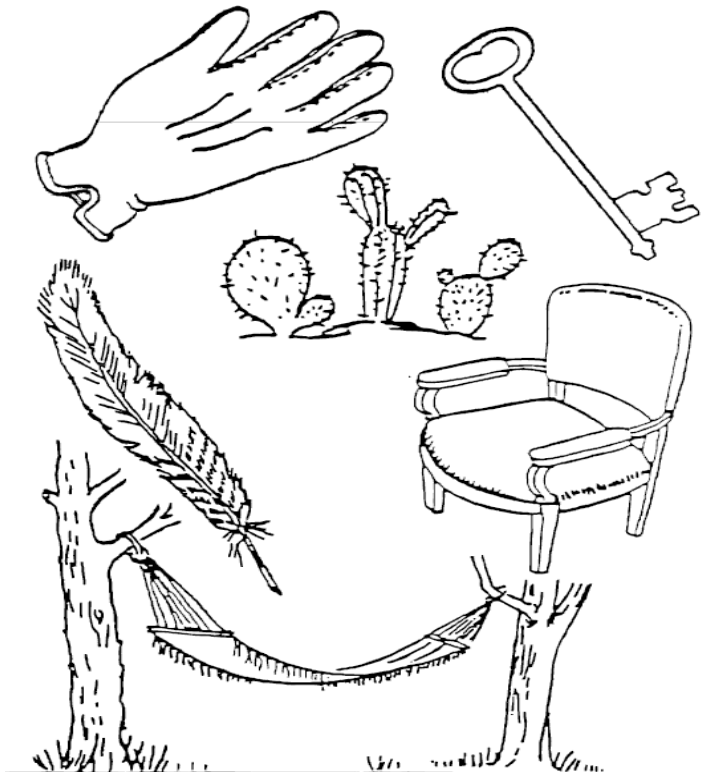
You know how.

Down to earth.

I got home from work.

**Near the table in the dining
room.**

**They heard him speak on the
radio last night.**



HINTS ON NIHSS SCALE

Item	Instructions	Scoring	Comatose
1a. Level of Consciousness (LOC)	<ul style="list-style-type: none"> - You can tell when you greet the patients - Score 2 if responds to pain - Score 3 if no responds apart from reflexes 	<ul style="list-style-type: none"> Alert (or awakens easily and stays awake) 0 Drowsy (Not alert, requires minor stimulation) 1 Obtunded (Requires painful stimulation) 2 Comatose (only reflexive movement to pain) 3 	<ul style="list-style-type: none"> 2 if responds to pain 3 if only reflexic response
1b. LOC- Questions Month? Age?	<ul style="list-style-type: none"> - Score only First response, no coaching - Score 2 if can't answer due to aphasia - Score 1 if incomprehensible due to dysarthria - Score 1 if intubated 	<ul style="list-style-type: none"> Both correct 0 One answer correct 1 Neither question answered correctly 2 	2
1c. LOC- Commands Opens/closes eyes - Opens/closes hands	<ul style="list-style-type: none"> - Use pantomiming if receptive aphasia 	<ul style="list-style-type: none"> Both correct 0 One correct 1 Neither performed correctly 2 	2
2. Eye Movements: Horizontal eye movements	<ul style="list-style-type: none"> - Use tracking if aphasic or confused - Use cephalon-ocular reflex if comatose - Score 1 if partial palsy but can cross midline - Score 2 if forced deviation, can't cross midline 	<ul style="list-style-type: none"> Normal 0 partial palsy (can cross midline) 1 Complete (can't cross midline) 2 	0 if intact cephalon-ocular reflex
3. Visual fields:	<ul style="list-style-type: none"> - Use visual threat if aphasic or comatose - Score only binocular field defect - Score 0 for Monocular field defect as CRAO - Score 1 for partial field cuts (quadrantanopia), 2 for hemianopia - Score 1 if visual extinction, even if VF is intact¹ 	<ul style="list-style-type: none"> Normal 0 Partial hemianopia 1 Complete hemianopia 2 Bilateral hemianopia 3 	3 if no response to threat
4. Facial:	<ul style="list-style-type: none"> - Aphasic patient: use pantomiming - Comatose/Confused: Use noxious stimulation to produce grimace - Score 1 for subtle UMN facial weakness - Score 2 for obvious UMN facial weakness - Score 3 for LMN facial weakness 	<ul style="list-style-type: none"> Normal 0 Minor paralysis (flattening of nasolabial folds) 1 Partial paralysis (total paralysis lower face) 2 Complete paralysis (Of upper and lower face) 3 	3
5. Motor –Arm Hold arm straight out from chest at 45° if supine and 90° if sitting	<ul style="list-style-type: none"> - You can help the patient placing the limb in desired position - Count loudly and show counting fingers as visual cue - Don't score the initial dip, score only if it continues to drift - Aphasic: Use pantomiming - Confused: Observe arm movement, is he moving against gravity? - Score 4 if no movement at all (can't make a shoulder shrug) - Score NA if amputated or joint fusion/cast etc 	<ul style="list-style-type: none"> Normal (No drift at all) 0 Drift (Drifts downward but NOT to bed) 1 Drifts to bed within 10 sec 2 Movement, but not against gravity 3 Complete paralysis (No movement at all) 4 	4
6a. Motor –leg Keep leg off bed at 30°		<ul style="list-style-type: none"> Normal (No drift at all) 0 Drift (Drifts downward but NOT to bed.) 1 Drifts to bed within 5 sec 2 Movement, but not against gravity 3 Complete paralysis (No movement at all) 4 	4
7. Limb Ataxia:	<ul style="list-style-type: none"> - Do both Heel-Shin & Finger-Nose - Score only if present and out of proportion of weakness - Score 0 if paralyzed or comatose - Score NA if amputated or joint fusion 	<ul style="list-style-type: none"> Absent 0 In one limb 1 In two limbs 2 	0
8. Sensory (Test on face, arm & thigh)	<ul style="list-style-type: none"> - Use pin prick on proximal limbs - Confused, look for patient reaction to pin prick - Comatose: scores 3 	<ul style="list-style-type: none"> Normal 0 Mild to moderate loss 1 Severe (unaware of being touched) 2 	2
9. Language/Aphasia Repetition & Comprehension "Today is a bright sunny day"	<ul style="list-style-type: none"> - If blind: give objects at hand and ask to name - Score 2 if mute but able to follow commands - Score 3 if mute and can't understand commands - Comatose: score 3 	<ul style="list-style-type: none"> Normal ability use words and follow commands 0 Mild to Moderate (difficulty repeating/naming) 1 Severe (very few words correct or understood) 2 Mute/global (Mute and can't or understand) 3 	3
10. Dysarthria	<ul style="list-style-type: none"> - Aphasic, can't read: score based on bedside speech - Score NA if Intubated or other physical barrier 	<ul style="list-style-type: none"> Normal 0 Mild to moderate 1 Severe (not understandable) 2 	2
11. Extinction : Ignores touch or vision	<ul style="list-style-type: none"> - Simultaneous bilateral visual/tactile stimulation, score only if present - If visual extinction is present, patient has to get at least 1 on VF - Blind: score only tactile extinction if present - Score 1, if nt extinction but there is evidence of other form of neglect 	<ul style="list-style-type: none"> Normal (visual, tactile, spatial) 0 Mild (only one modality) 1 Profound (2 or more modalities) 2 	2