

UMHS In-Patient Acute Ischemic Stroke Treatment Guidelines*

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*Adapted from AHA guidelines: *Stroke* 2013;44(3)870-947.

Physician Checklist page 1 of 2
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Physician Acute Stroke Checklist
Section 1

- Give a written copy of “Nursing guidelines for Acute Stroke” to nurse in charge of patient for information
- If potential for any acute stroke intervention (IV or IA), page Rapid Response Team, if not done previously
- Complete brief initial evaluation to determine if patient has suspected ischemic stroke syndrome.
- Determine exact date and time of symptom onset (defined as the last time patient was known to be normal)
- Determine if there is sufficient time and patient is eligible for treatment with IV tPA within 270 minutes (4.5 h) from symptom onset.
 - If “no”, is patient eligible for intra-arterial treatment?
 - Yes, proceed to Section 3
 - If there is sufficient time, proceed with checklist
- NO aspirin, heparin, warfarin, or other anticoagulants for patients being considered for tPA
- Arrange STAT non-contrast head CT
 - In the order, indicate that the patient is a possible tPA candidate.
 - Contact CT tech directly to ensure understanding and scheduling priority.
- Arrange STAT EKG
- Page patient’s attending physician, if not present
- Page 4A charge nurse (8761) for possible immediate transfer to the stroke unit
- Phone pharmacy to alert to possible tPA candidate and remind of expectation for 15 minute delivery to patient location once MiChart order entered. Give patient weight, if possible
 - 6th floor pharmacy for adult UH/CVC patient (6-8251) or
 - Children’s and Women’s pharmacy if adult C & W patient (4-8208)
 - If no response, call ED pharmacy (2-6708)
- Complete history and physical examination
- Complete attached “IV tPA Stroke Inclusion and Exclusion Form”
- If all inclusion criteria for IV tPA are “yes” AND all exclusion criteria are “no” proceed to Section 2
 - If no, is patient a candidate for IA intervention? -go to Section 3

Section 2

- Obtain informed consent, either oral or written. Oral consent should be documented in notes, if desired, optional written consent is at the end of this packet.
- Enter tPA order in MiChart
- Call pharmacy to notify that the tPA order has been entered, and verify delivery to patient location
 - 6th floor pharmacy for adult UH/CVC patient (6-8251) or
 - Children's and Women's pharmacy if adult C & W patient (4-8208)
 - If no response, call ED pharmacy (2-6708)
- tPA will be delivered by pharmacy tech, if tech not available, send runner to pick up
- CONFIRM DRUG IS ACTIVASE or ALTEPLASE AND DOSING WITH NURSE PRIOR TO ADMINISTRATION
- Maintain Systolic BP<185 and Diastolic BP<110.
- It is preferred to transfer patients to the stroke unit before treatment, but DO NOT DELAY TREATMENT TO TRANSFER PATIENTS
- If patient cannot go to stroke unit, contact neurosurgery resident to arrange NICU bed
- Consider possible intracerebral hemorrhage for any sudden increase in blood pressure, change in mental status, decrease in neurologic function or complaints of severe headache Obtain repeat head CT if needed
 - See "Algorithm for Management of Suspected Intracranial Hemorrhage" if necessary
- Enter post-tPA treatment orders into MiChart

Section 3 Possible IA intervention

- Page NIR to notify of possible IA candidate (consult paging website for on-call NIR physician)
- Contact anesthesia (page 8003).

Nursing Guidelines for Initial Evaluation of Patients with Acute Stroke

Section 1) Initial treatment for all possible acute stroke patients

- If new onset of stroke symptoms, call Rapid Response Team and page primary service
- Evaluate patient, including vital signs & POC glucose
- Monitor neuro status and notify physician of any changes or if BP greater than 185/110

Common Stroke Symptoms

Sudden onset:

- weakness or numbness on one side,
- confusion, trouble speaking or understanding,
- trouble seeing in one or both eyes,
- trouble walking, loss of balance or coordination
- severe headache with no known cause

Section 2) Rapid Response or ICU nurses

- Check if STAT “possible tPA candidate” non-contrast head CT ordered, if not, suggest to ordering physician
- Check if Stroke Team (BIG) has been paged, if not, suggest to ordering physician
- Check BP and pulse at least every 15-30 min and record. Notify physician for BP \geq 185/110 this must continue even during patient transport.
- Neuro checks including vital signs, GCS, motor function, pupil size and reactivity. Record at least every 15-30 minutes. This should continue, even during patient transport.
- Obtain temperature x1
- Oxygen at 2 LPM via nasal cannula for oxygen saturation $<$ 95%
- Do not give aspirin, heparin or warfarin.
- Keep patient NPO
- IV access x 2; NS at 75cc/hr.; saline lock in opposite arm
- AVOID ARTERIAL STICKS (if possible)
- STAT nurse blood draw for:
 - CBC with platelets
 - PT, aPTT, and INR
 - Glucose (preferably checked at bedside)
 - Hold type and screen and additional blood
- STAT EKG (do not delay head CT or treatment for EKG)
- Establish patient’s weight _____ kg
- Obtain IV pump and tubing for possible infusion.

Section 3) Nursing Orders for Treating Stroke with Activase/Alteplase (tPA)

- Provide patient weight for tPA order
- USE ONLY ACTIVASE or ALTEPLASE (TPA)
 - DO NOT USE RETAVASE/RETEPLASE OR OTHER TPA-CLASS DRUGS!
 - DO NOT USE CARDIAC DOSING.
- Make sure Pharmacy informed of “STAT TPA ORDER FOR ACUTE STROKE”
 - 6th floor pharmacy for adult UH/CVC patient (6-8251) or
 - Children’s and Women’s pharmacy if adult C & W patient (4-8208)
 - If no response, call ED pharmacy (2-6708)
- On drug arrival
 - Verify drug, tPA, (Activase/alteplase) and dosing with treating physician.
 - Confirm total dose, bolus dose (10% of total dose)
 - Confirm infusion dose (90% of total dose) of Activase/alteplase tPA
- Bolus dose is given IV push over 1 minute. Infusion dose is given over 1 hour
- Set the infusion rate on the pump.
- At the end of infusion, hang a 50 mL bag of normal saline and infuse at rate of t-PA infusion rate to empty the line completely of t-PA. Document the start time of this infusion in the record.
- Vital signs and neuro checks q 15 minutes and record, for 2 hours after the bolus of tPA, then q 30 minutes (+/- 5 minutes) for 6 hours, then q1 hour (+/- 10 minutes) for 16 hours. Continue to check and record until patient transferred and accepted.
- Notify physician immediately for:
 - Any change in level of consciousness
 - Any worsening of neurologic function
 - Any abrupt rise in blood pressure
 - Any systolic blood pressure > 180 OR diastolic blood pressure > 105
- Transfer to Stroke Unit (or NICU) when bed available.

Section 4) If pharmacy is NOT AVAILABLE to prepare tPA: (this should only be used in extraordinary circumstances)

- Follow the reconstituting and administration instructions for Activase/alteplase tPA on the dosage chart in the acute stroke tackle box from the pharmacy

Section 5) Nursing Orders for possible IA treatment

- Continue vital sign and neuro checks at least q15-30 minutes until patient care is transferred to anesthesia, or decision is made that patient is not an IA candidate.
- Patient must be accompanied by a nurse until care is transferred to another service assuming care

IV tPA Stroke Inclusion and Exclusion Criteria

Inclusions
Diagnosis of ischemic stroke causing measurable neurological deficit
Age greater than 18
Time of symptom onset to potential treatment 0-180 minutes
Time of symptom onset to potential treatment 181-270 minutes (additional exclusions shaded)*

Exclusions[#]	Yes	No
1. Significant head trauma or prior stroke in previous 3 months		
2. Symptoms suggest subarachnoid hemorrhage		
3. History of arterial puncture at a non-compressible site within the previous 7 days		
4. History of previous intracranial hemorrhage		
5. History of intracranial neoplasm, arteriovenous malformation or aneurysm		
6. Recent intracranial or intraspinal surgery		
7. Elevated blood pressure (systolic >185mm Hg or diastolic >110mm Hg)		
8. Active internal bleeding		
9. Acute bleeding diathesis, including, but not limited to:		
a. Platelet count < 100,000/mm ³ [†]		
b. Use of heparin in the previous 48 hours, resulting in abnormally elevated aPTT greater than the upper limit of normal		
c. Current use of anticoagulant with INR > 1.7 or PT >15 ^{††}		
d. Current use of direct thrombin inhibitors (e.g. dabigatran) or factor Xa inhibitors (e.g. rivaroxaban, apixaban) with elevated sensitive laboratory tests (such as aPTT, INR, platelet count, and ECT; TT; dabigatran level; or appropriate factor Xa activity assays) ^{††}		
10. Blood glucose < 50mg/dl		
11. CT demonstrates multilobar infarction (hypodensity >1/3 cerebral hemisphere)		
Relative Contraindications Under some circumstances patients may receive IV tPA despite one or more relative contraindications. Consider risk to benefit ratio for IV tPA if these relative contraindications are present:		
12. Only minor or rapidly improving stroke symptoms (clearing spontaneously)		
13. Pregnancy		
14. Seizure at onset with postictal residual neurological impairments		
15. History of major surgery or serious trauma within the preceding 14 days		
16. Recent gastrointestinal or urinary tract hemorrhage (within previous 21 days)		
17. History of acute MI in previous 3 months?		
18. Aged > 80 years		
19. Severe stroke (NIHSS >25)		
20. Taking an oral anticoagulant regardless of INR		
21. History of both diabetes and prior ischemic stroke		

Adapted from AHA guidelines: *Stroke*. 2013;44(3):870-947. While recognizing that the alteplase package insert was updated in February 2015, our general practice is to follow the recommendations in the AHA guidelines.

*Treatment with IV tPA between 3 and 4.5 hours has not been approved by the FDA and is an off-label use for the treatment of acute ischemic stroke. Data from the ECASS 3 study supports the treatment of selected patients within this time frame.

#A physician with expertise in acute stroke care may modify this list.

† In patients without history of thrombocytopenia, treatment with IV tPA can be initiated before availability of platelet count but should be discontinued if platelet count is <100,000/mm³

††If there is no clinical suspicion of abnormal coagulation laboratories, IV rtPA may be initiated before the availability of coagulation study results but should be discontinued if INR > 1.7) or the PT/PTT is elevated by local laboratory standards. For patients taking direct thrombin inhibitors or factor Xa inhibitors, it may be reasonable to administer IV tPA if history can be obtained that the patient has not received a dose of these agents for >48 hours AND has normal renal function.

Pre-treatment blood pressure control recommendations:

BLOOD PRESSURE MANAGEMENT PRE TREATMENT: 185/110 or less

1. Monitor BP at least every 15-30 minutes, q 15 if blood pressure high or labile.
2. If systolic BP > 185 mm Hg or diastolic blood pressure is > 110 mm Hg treatment options include:
 - a. Labetalol 10 – 20 mg IV over 1-2 min, may repeat x 1 (consider starting with 5 mg doses if close to target or patient is small); or
 - b. Nicardipine infusion, 5 mg/h, titrate up by 2.5 mg/h at 5- to 15-minute intervals, maximum dose 15 mg/h; titrating to desired response.
3. If BP remains above 185/110 mm Hg, do not administer tPA.

BLOOD PRESSURE MANAGEMENT POST TREATMENT: 180/105 or less
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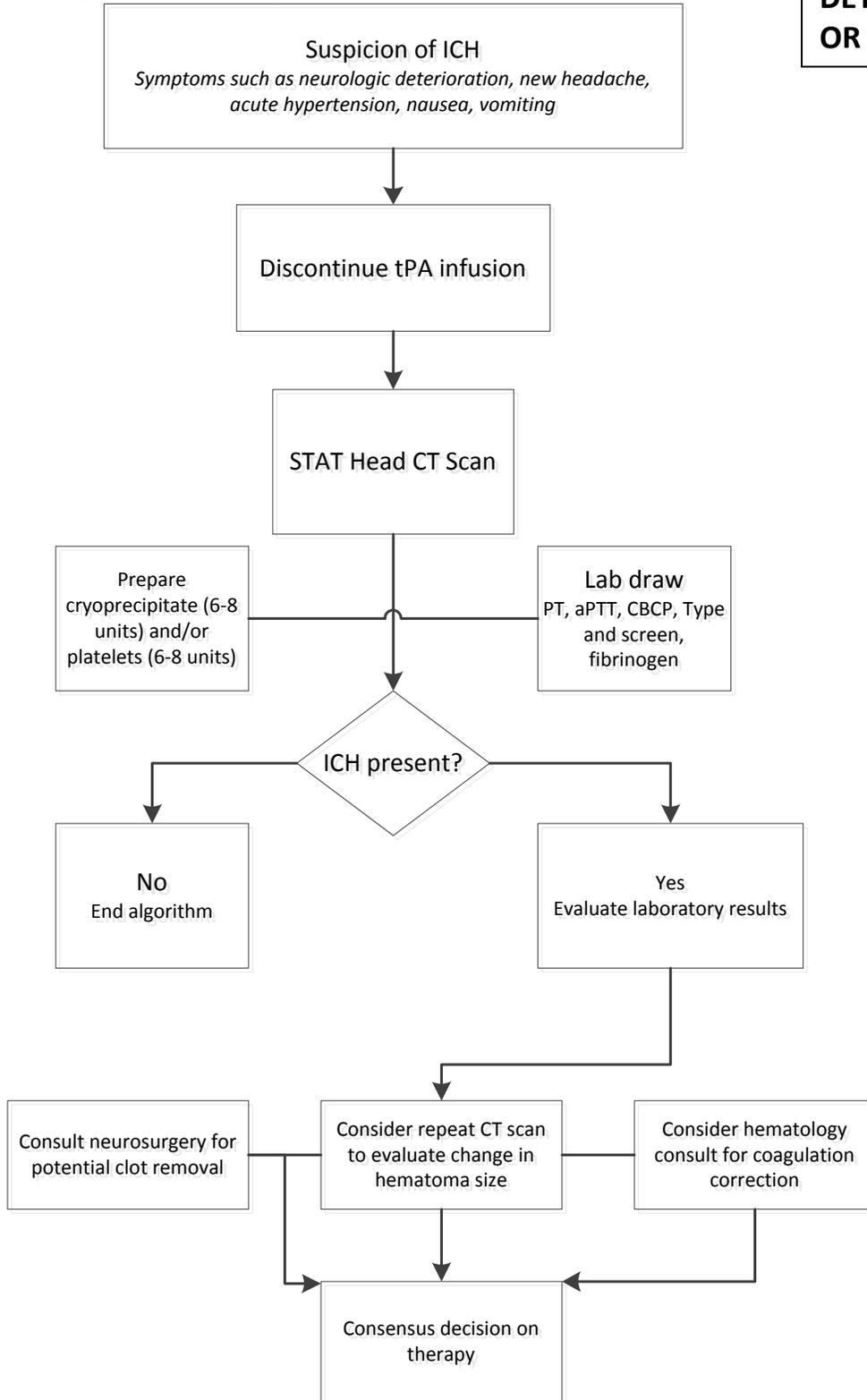
Post- treatment blood pressure control recommendations:

(Remember: it's important to reach the target of <180/105 quickly, while avoiding relative hypotension)

1. Check BP every 15 min for 2 hours, then every 30 min for 6 hours, then every hour for 16 hours.
2. If systolic BP is 180 to 230 mm Hg or if diastolic BP is 105 to 120 mm Hg, treatment options include:
 - a. Labetalol 10 mg IV over 1-2 minutes. The dose may be repeated and/or doubled every 10-20 minutes, maximum dose 300 mg; or
 - b. Labetalol 10 mg IV followed by an infusion at 2 to 8 mg/min; or
 - c. Nicardipine infusion, 5 mg/h, titrate up by 2.5 mg/h at 5- to 15-minute intervals, maximum dose 15 mg/h; titrating to desired response.
 - d. Monitor blood pressure 15 minutes after each dose or infusion change
3. If systolic BP is > 230 mm Hg or if diastolic BP 121-140 mm Hg; treatment options include:
 - a. Labetalol 10 mg IV over 1-2 minutes. The dose may be repeated and/or doubled every 10-20 minutes, maximum dose 300 mg; or
 - b. Labetalol 10 mg IV followed by an infusion at 2 to 8 mg/min; or
 - c. Nicardipine infusion, 5 mg/h, titrate up by 2.5 mg/h at 5- to 15-minute intervals, maximum dose 15 mg/h;
 - d. Monitor blood pressure every 15 minutes during treatment until stabilized.
4. If BP not controlled, consider:
 - a. sodium nitroprusside (0.5-10 microgram/kg/min.), titrate to effect
 - b. Monitor blood pressure every 15 minutes during treatment until stabilized.
 - c. Continuous arterial monitoring is advised if sodium nitroprusside is used.

Management of Suspected ICH

**DETERIORATION
OR SUSPECTED ICH**



National Institutes of Health Stroke Scale (NIHSS) Score Sheets and Instructions

Administer stroke scale items in the order listed. Record performance in each category after each exam.

Follow directions provided for each exam technique.

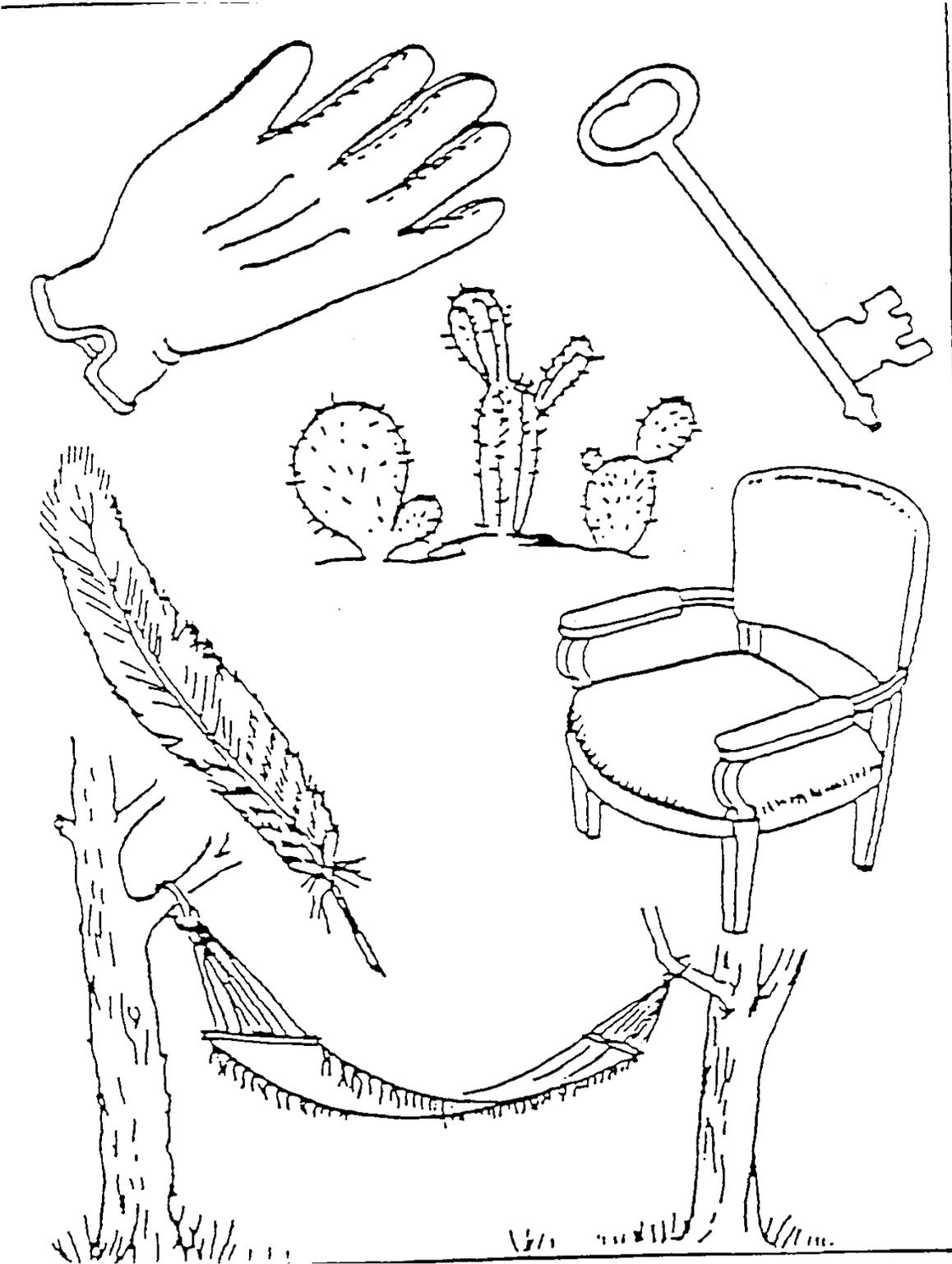
INSTRUCTIONS	SCALE DEFINITION	SCORE	SCORE
<p>1a. Level of Consciousness (LOC): The physician must choose a response even if a full evaluation is prevented by such obstacles as an endotracheal tube, language barrier or orotracheal trauma/bandages. A 3 is scored only if the patient makes no movement (other than reflexive posturing) in response to noxious stimulation.</p>	<p>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, areflexic.</p>		
<p>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.</p>	<p>0 = Answers both questions correctly. 1 = Answers one question correctly. 2 = Answers neither question correctly.</p>		
<p>1c. LOC Commands: The patient is asked to open and close the 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 them (PANTOMIME) and score the result (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.</p>	<p>0 = Performs both tasks correctly. 1 = Performs one tasks correctly. 2 = Performs neither task correctly.</p>		
<p>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 physician. Establishing eye contact and then moving about the patient from side to side will occasionally clarify the presence of a partial gaze palsy.</p>	<p>0 = Normal. 1 = Partial gaze palsy. This score is given when gaze is abnormal in one or both eyes, but where forced deviation or total gaze paresis are not present. 2 = Forced deviation, or total gaze paresis not overcome by the oculocephalic maneuver.</p>		
<p>3. Visual: Visual fields are tested by confrontation, using finger counting or visual threat as appropriate. Patient must 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 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 answer question 1.</p>	<p>0 = No visual loss. 1 = Partial hemianopia. 2 = Complete hemianopia. 3 = Bilateral hemianopia (blind including cortical blindness).</p>		
<p>4. Facial Palsy: Ask, or use pantomime to encourage the patient to show teeth or smile 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 barrier obscures the face these should be removed to the extent possible.</p>	<p>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 absence of facial movement in the upper and lower face).</p>		

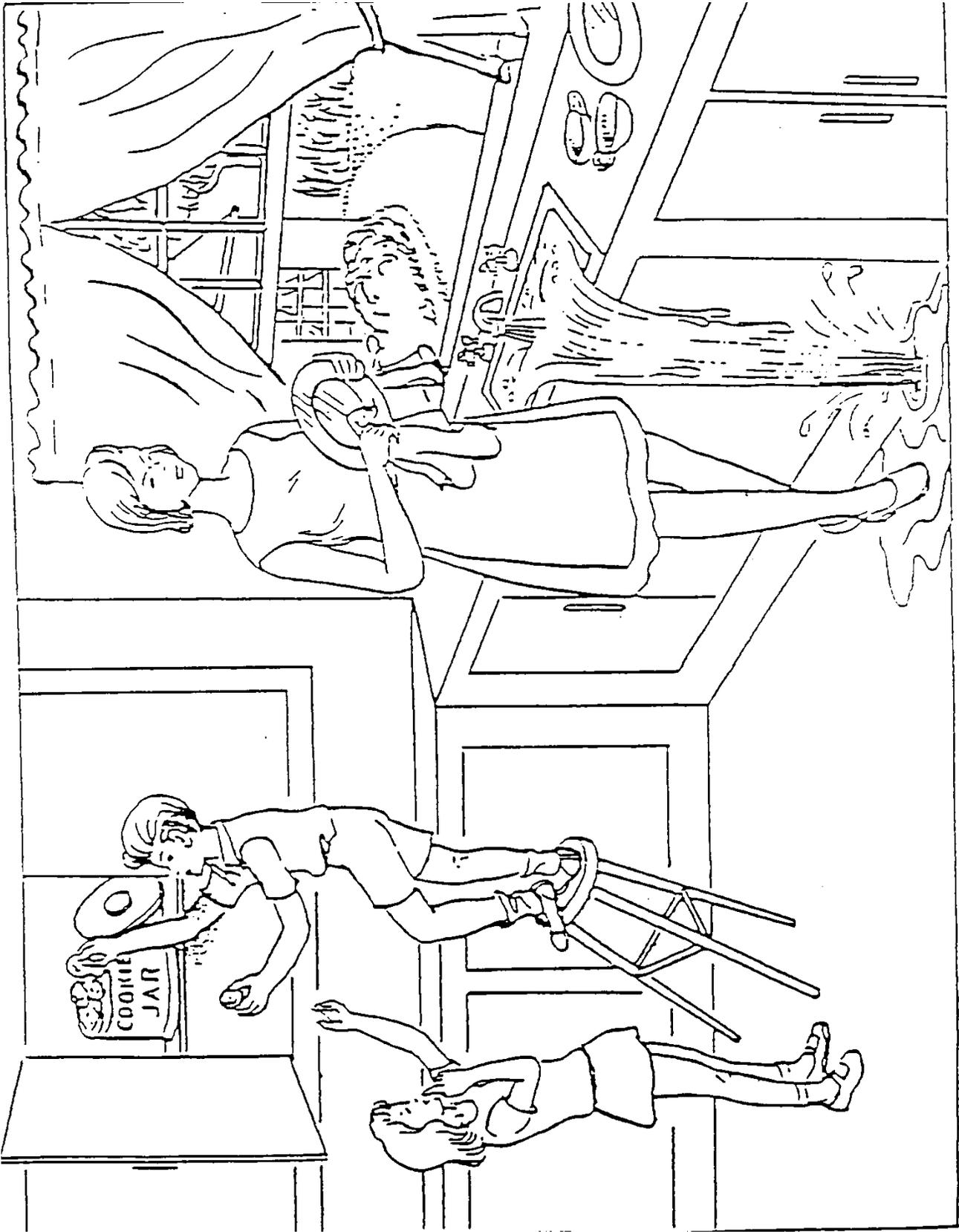
The National Institutes of Health Stroke Scale (NIHSS) cont.

INSTRUCTIONS	SCALE DEFINITION	SCORE	SCORE
<p>5. Motor Arm: Extend the arms 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. Score each limb separately.</p>	<p>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</p> <p>5a. LEFT ARM</p> <p>5b. RIGHT ARM</p>	<p>5a.____</p> <p>5b.____</p>	<p>5a.____</p> <p>5b.____</p>
<p>6. Motor Leg: Extend the leg 30 degrees (always tested with patient 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 arm. Score each limb separately.</p>	<p>0 = No drift. Limb holds 30 degrees for full 5 seconds. 1 = Drift. Limb holds 30 degrees, but drifts down before full 5 seconds; does not hit bed or other support. 2 = Some effort against gravity, limb cannot get to or maintain (if cued) 30 degrees, drifts down to bed but has some effort against gravity. 3 = No effort against gravity, limb falls. 4 = No movement</p> <p>6a. LEFT LEG</p> <p>6b. RIGHT LEG</p>	<p>6a.____</p> <p>6b.____</p>	<p>6a.____</p> <p>6b.____</p>
<p>7. Limb Ataxia: This item is aimed at finding evidence of a unilateral cerebellar lesion. Test with eyes Open. In case of visual defect, insure testing is done in intact visual field. The finger-nose-finger and heel-shin tests are performed on both sides and ataxia is <u>scored only if present out of proportion to weakness. Ataxia is absent in the patient who cannot understand or is hemiplegic.</u></p>	<p>0 = Absent.</p> <p>1 = Present in one limb.</p> <p>2 = Present in two limbs.</p>		
<p>8. Sensory: Sensation or grimace to pinprick when tested, or withdrawal from noxious stimulus in the obtunded or aphasic patient. Only sensory loss attributed to stroke is scored as abnormal and the examiner should test as many body areas (limbs, trunk, face) as needed to accurately check for hemisensory loss. A score of 2, "severe or total", should only be given when a severe or total loss of sensation can be clearly demonstrated. Stuporous and aphasic patients will therefore probably score 1 or 0. The patient with a brainstem stroke who has bilateral loss of sensation is scored 2. If the patient does not respond and is quadriplegic score 2. Patients in coma (item 1a = 3) are arbitrarily given a 2 on this item.</p>	<p>0 = Normal; no sensory loss.</p> <p>1 = Mild to moderate sensory loss; patient feels pinprick is less sharp or is dull on the affected side; or there is a loss of superficial pain with pinprick but patient is aware he/she is being touched.</p> <p>2 = Severe total sensory loss; patient is not aware of being touched in the face, arm, and leg.</p>		

The National Institutes of Health Stroke Scale (NIHSS) cont.

INSTRUCTIONS	SCALE DEFINITION	SCORE	SCORE
<p>9. Best Language: A great deal of information about comprehension will be obtained during the preceding sections of the examination. The patient is asked to describe the attached picture, to name the items on the attached naming sheet, and to read from the attached list of sentences. Comprehension is judged from responses here as well as to all of the commands in the preceding general neurological exam. If visual loss interferes with the tests ask the patient to identify objects placed in the hand, repeat, and produce speech. The intubated patient should be asked to write. The patient in coma (question 1 a - 3) will arbitrarily score 3 on this item. The examiner must choose a score in the patient with stupor or limited cooperation but a score of 3 should be used only if the patient is mute and follows no one step commands.</p>	<p>0 = No aphasia, normal.</p> <p>1 = Mild to moderate aphasia; some obvious loss of fluency or facility of comprehension. without significant limitation on ideas expressed or form of expression. Reduction of speech and/or comprehension, however, makes conversation about provided material difficult or impossible. For example in conversation about provided materials examiner can identify picture or naming card from patient's response.</p> <p>2 = Severe aphasia; all communication is through fragmentary expression; great need for inference, questioning, and guessing by the listener. Range of information that can be exchanged is limited; listener carries burden of communication. Examiner cannot identify materials provided from patient response.</p> <p>3 = Mute, global aphasia; no usable speech or auditory comprehension.</p>		
<p>10. Dysarthria: If patient is thought to be normal an adequate sample of speech must be obtained by asking patient to read or repeat words from the attached list. If the patient has severe aphasia, the clarity of articulation of spontaneous speech can be rated.</p>	<p>0 = Normal.</p> <p>1 = Mild to Moderate: patient slurs at least some words and, at worst, can be understood with some difficulty</p> <p>2 = Severe: patient's speech is so slurred as to be unintelligible in the absence of, or out of proportion to, any dysphasia, or is mute/anarthric</p>		
<p>11. Extinction and Inattention (formerly Neglect): Sufficient information to identify neglect may be obtained during the prior testing. If the patient has a severe visual loss preventing visual double simultaneous stimulation, and the cutaneous stimuli are normal, the score is normal. If the patient has aphasia but does appear to attend to both sides, the score is normal. The presence of visual or spatial neglect or anosognosia may also be taken as evidence of abnormality. Since the abnormality is scored only if present the item is never untestable.</p>	<p>0 = No abnormality.</p> <p>1 = Visual, tactile, auditory, spatial or personal inattention. Extinction to bilateral simultaneous stimulation in one of the three sensory modalities.</p> <p>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.</p>		
TIME			
TOTAL SCORE			





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.

MAMA

TIP - TOP

FIFTY - FIFTY

THANKS

HUCKLEBERRY

BASEBALL PLAYER

UNIVERSITY OF MICHIGAN HOSPITALS & HEALTH CENTERS Request and Consent to Medical, Surgical, Radiological or Other Procedures	NAME: _____ MRN: _____ BIRTHDATE: _____ CSN: _____
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ENTER PATIENT INFORMATION OR APPLY PATIENT LABEL TO ALL PAGES

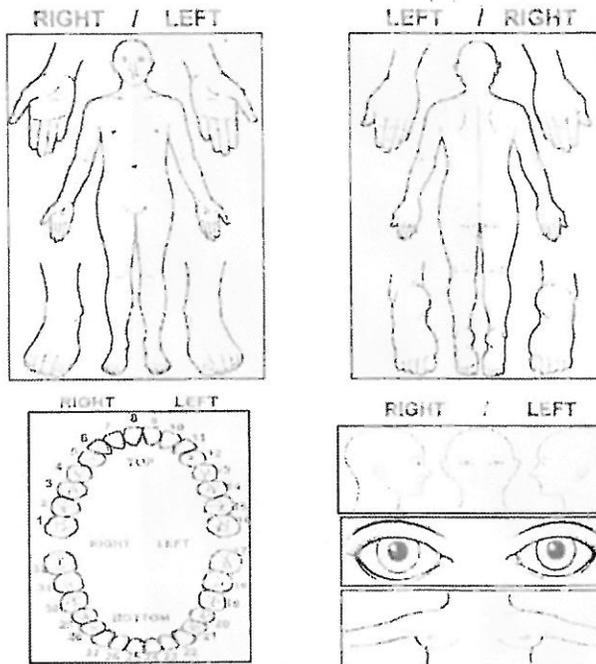
1. My diagnoses/conditions are:
Stroke due to blockage of blood vessel in brain or clot within vessel
2. My recommended procedures are:
 Treatment with intravenous thrombolysis (clot buster) For every 100 patients treated, about 13 additional (around 8 if treated later and around 20 if treated very early) will avoid disability. In addition, fewer patients will end up dependent on others if treated. The chance of dying from stroke similar with or without treatment.
 My procedures have been explained by: _____ ID#: _____
 My procedures will be performed or supervised by: _____ ID#: _____
3. My risks include:
 1. Bleeding into the brain leading to worse disability or death (Between 1 and 6 out of 100 treated patients are worse off)
 2. Internal bleeding (into stomach or intestines or other locations)
 3. Nausea and/or vomiting
 4. Low blood pressure
 5. Allergic reactions (swelling of tongue or face)
 6. Rash
 7. Fever
4. I understand the approximate location of my procedure or surgical incision will be marked on my body prior to the procedure unless it is considered to be an excluded site below. For illustrative purposes, the approximate operative site may be marked on the diagrams provided.

I CONSENT TO THE FOLLOWING:
PROCEDURE(S)

I consent to the procedure(s) listed in #2 above (please initial)

Initial the appropriate box: I consent to a pregnancy testing (if appropriate). Yes No

Exceptions (TO BE COMPLETED BY PROVIDER ONLY):



I HAVE READ AND UNDERSTAND THE INFORMATION ON THIS FORM AND ON THE PREVIOUS PAGES BEFORE I SIGNED IT.

Signature of Patient or Legally Authorized Representative (if patient is a minor or unable to sign)

Printed Name of Legally Authorized Representative (if patient is a minor or unable to sign)
 Relationship: Spouse Parent Next-of-Kin
 Legal Guardian DPOA for Healthcare

Consent Obtained, Explained and Witnessed by:
 Date: _____ Time: _____ A.M. / P.M.
(mm/dd/yyyy)

- Excluded Sites:** Check here if the operative site is considered an excluded site. Excluded sites are as follows:
- Mid-line sternotomy for a non-sided organ (e.g., CABG)
 - Cesarean deliveries
 - Surgery through a body orifice that does NOT involve laterality of the organ (e.g., Cystoscopy)
 - Laparotomy, laparoscopy that does NOT involve laterality of the organ (e.g., splenectomy, laparoscopic cholecystectomy)
 - Interventional procedures for which the site of insertion is NOT predetermined, such as cardiac catheterization procedures, angiography, and dialysis catheters
 - Breast biopsy with wire localization
 - Intra-oral and dental procedures
 - Premature infants, for whom the mark may cause a permanent tattoo
 - Marking for superficial cosmetic procedures using lasers (or similar energy-based devices) or injectables (such as neurotoxins and soft tissue fillers) when there are multiple sites and/or when marking would be impractical or pose a potential adverse outcome to the procedure.

30-10000	VER: A/13 HIM: 04/13	Original – Medical Record Copy – Patient/Family		Request and Consent to Medical, Surgical, Radiological or Other Procedures
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NOTE: Image ALL PAGES or send ALL PAGES to Health Information Management – including pages without a signature section

UNIVERSITY OF MICHIGAN HOSPITALS & HEALTH CENTERS Request and Consent to Medical, Surgical, Radiological or Other Procedures	NAME:
	MRN:
	BIRTHDATE:
	CSN:

ENTER PATIENT INFORMATION or APPLY PATIENT LABEL TO ALL PAGES

1. I have spoken with my doctors. They have explained my diagnosis and condition (listed on page 2).
2. My doctors have recommended the procedures listed on page 2 to diagnose or treat my condition. They have explained the **POTENTIAL BENEFITS** of these procedures. They also have explained the **RISKS OF REFUSING** the procedures.
3. My doctors have explained the **RISKS OF THE PROCEDURES** and I understand them. The major risks are listed on page 2.
4. I understand the planned location of my procedures may be marked on my body before the procedures. It may also be marked on the diagrams on page 2.
5. I understand that if I am given **ANESTHESIA OR SEDATION ANALGESIA** there will be other risks. These risks include severe blood loss, infection, damage to teeth, mouth, throat, or vocal cords, nerve or eye damage, drug reaction, slowing or stopping of breathing, failure of the anesthetic or sedation analgesia, cardiac arrest, risks that cannot be predicted, permanent disability or even death. There may be other unknown risks. I understand these risks and I consent to the use of any anesthetic or sedation analgesia that my doctors or the anesthesiologists believe is necessary.
6. I understand that **blood and urine specimens** may need to be collected in order to determine my care. If I am a woman of childbearing age, this may include a **pregnancy test**.
7. My doctors have explained the **ALTERNATIVES** to the recommended procedures and their risks. I want to have the recommended procedures.
8. I understand that sometimes during a procedure or afterwards (for example if I am in an intensive care unit), my doctors may decide that **RELATED OR ADDITIONAL PROCEDURES** are also necessary. I request and authorize the University of Michigan and the providers responsible for my treatment to perform any necessary additional procedures.
9. I **DONATE** and authorize the University of Michigan to own, use, retain, preserve, manipulate, analyze, or dispose of any **excess tissues, specimens, or parts of organs** that are removed from my body during the procedures described above and are not necessary for my diagnosis or treatment. The University of Michigan may use or retransfer these items to any entity for any lawful purpose, including education and retrospective research on anonymous specimens.
10. I request and authorize the University of Michigan and any **doctors, nurses, medical residents and other trainees, technicians, assistants or others** who may be assigned to my case to participate in my diagnosis and treatment. I understand that **representatives of companies** that sell equipment used in my procedures may also be present and participate. I also understand that the University of Michigan is a teaching institution. Medical and other students can and do participate in procedures as part of their education. By signing this form, I agree to allow these students to participate in my procedures. This may include performing **exams under anesthesia** that are relevant to my procedures.
11. I understand that unexpected events may happen before or during a surgery or procedure. This may require changing the providers originally scheduled to perform or supervise my procedures.
12. I understand that the practice of medicine, surgery and dentistry is not an exact science. I have been told about the probability of success of the procedures. **NO PROMISES OR GUARANTEES** have been made or can be made to me about the success, outcomes, or side effects of the procedures.
13. I have been given a chance to ask questions about the procedures and this form and my questions have been answered.

List any exceptions under the Exceptions section located on page 2.

30-10000	VER: A/13 HIM: 04/13	Original – Medical Record Copy – Patient/Family		Request and Consent to Medical, Surgical, Radiological or Other Procedures
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NOTE: Image ALL PAGES or send ALL PAGES to Health Information Management – including pages without a signature section