Study Completion / Day 90 +/- 10 days

N1a.	Date:	//20	9	Not done	
N1b.	Evaluation lo	cation:	Neurology clinic Hospital Outside Facility Telehealth-video Telehealth-phone	0	
N2. CI	inical Rating S	Scales			
	a. NIHSS corb. TMT comp c. SIS compled. MOCA corb. FSS complef. CAM-ICU corb. PHQ-9 corb. mRS comp	leted? eted? npleted? leted? completed? npleted?	Yes 1	No ° No	
	Dead Home (same and Home (difference Rehabilitation Nursing facility Other	y e since last visit	oke) 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ves, does patient have new functional :)	
(if pation	ent is expired:	Date	Cause)	
N5. Ha	s the subject v	withdrawn from t	he study? Yes ¹☐ I	No ⁰ (If yes, describe reason below:)	
N6. Ha below:)		any serious adv	erse events since las	st visit? Yes ¹☐ No º☐ (If yes, descri	be

Has the patient started any of the following medications with potential cognitive and sedating side effects since the last visit: seizure medications, anticholinergics, benzodiazepines,			NES
as the patient started any of the following medications with potential cognitive and sedating side effects since the last visit: seizure medications, anticholinergics, benzodiazepines,	as the patient started any of the following medications with potential cognitive and sedating side effects since the last visit: seizure medications, anticholinergics, benzodiazepines,		Date
side effects since the last visit: seizure medications, anticholinergics, benzodiazepines,	side effects since the last visit: seizure medications, anticholinergics, benzodiazepines,		Visi
side effects since the last visit: seizure medications, anticholinergics, benzodiazepines,	side effects since the last visit: seizure medications, anticholinergics, benzodiazepines,		
opiates? Yes ¹☐ No º☐ (If yes, describe below:)	, ,		
		side effects since the last visit: seizure medications, ar	

90

NEST #_		
Date:	_/	_/_

Visit 4 / Day 90

35 Fatigue Severity Scale (FSS)

168

FATIGUE SEVERITY SCALE

During the past week, I have found that:	Strongly Disagree			Neither Agree Nor Disagree			Strongly Agree
My motivation is lower when I am fatigued.	1	2	3	4	5	6	7
2. Exercise brings on my fatigue.	1	2	3	4	5	6	7
3. I am easily fatigued.	1	2	3	4	5	6	7
Fatigue interferes with my physical functioning.	1	2	3	4	5	6	7
5. Fatigue causes frequent problems for me.	1	2	3	4	5	6	7
My fatigue prevents sustained physical functioning.	1	2	3	4	5	6	7
Fatigue interferes with carrying out certain duties and responsibilities.	1	2	3	4	5	6	7
Fatigue is among my three most disabling symptoms.	1	2	3	4	5	6	7
Fatigue interferes with my work, family, or social life.	1	2	3	4	5	6	7

Krupp et al.[4]. Copyright © 1989 American Medical Association. All rights reserved.

References

- Kleinman, L., Zodet, M. W., Hakim, Z., Aledort, J., Barker, C., Chan, K., Krupp, L., & Revicki, D. (2000). Psychometric evaluation of the fatigue severity scale for use in chronic hepatitis C. *Quality of Life Research*, 9, 499–508.
- Herlofson, L., & Larsen, J. P. (2002). Measuring fatigue in patients with Parkinson's disease – the fatigue severity scale. *European Journal of Neurology*, 9, 595–600.
- 3. Schneider, R. A. (2004). Chronic renal failure: assessing the fatigue severity scale for use among caregivers. *Journal of Clinical Nursing*, *13*(2), 219–225.
- Krupp, L. B., LaRocca, N. G., Muir-Nash, J., & Steinberg, A. D. (1989). The fatigue severity scale: application to patients with multiple sclerosis and systemic lupus erythematosus. Archives of Neurology, 46, 1121–1123.

Representative Studies Using Scale

Téllez, N., Río, J., Tintoré, M., Nos, C., Galán, I., & Montalban, X. (2006). Fatigue in multiple sclerosis persists over time. *Journal of Neurology*, 253(11), 1466–1470.

Naess, H., Waje-Andreassen, U., Thomassen, L., Nyland, H., & Myhr, K. M. (2006). Health-related quality of life among young adults with ischemic stroke on longterm follow-up. *Stroke*, 37, 1232–1236.

MONTREAL COGNITIVE ASSESSMENT (MoCA®)

Version 8.1 BLIND English

NEST V4 / Day 90

NAME:

EDUCATION:

Sex:

Date of birth:

DATF:

				,							
MEMORY		FACE	VELVET	CHURCH	DAISY	RED	POINTS				
Read list of words, subject must repeat them. Do 2 trials, even if 1st trial is successful.	1st TRIAL						NO				
Do a recall after 5 minutes.	2nd TRIAL						POINTS				
ATTENTION	Subject I	has to rep	eat in the	forward or	der. []	2 1 8 5 4	/2				
Read list of digits (1 digit / sec.).	Subject I	has to rep	eat in the	backward	order. [] 7 4 2					
Read list of letters. The subject must tap at each letter A. No points if ≥ 2 errors [] F B A C M N A A J K L B A F A K D E A A A J A M O F A A B											
[] FBACMNAAJ	K L B A	F A K D	EAA	A J A M	O F A A	В	/1				
Seria 7 subtraction starting at 100	[] 93	[]	86 [] 79	[] 72	[] 65	/3				
4 or 5 correct subtractions: 3 pts ,	2 or 3 co	rrect: 2 pt:	s, 1 corr	ect: 1 pt,	0 correct: 0	pt					
LANGUAGE	I only kno	w that Johi	n is the one	to help to	day.	[]	/2				
Repeat:	The cat a	lways hid u	nder the co	ouch when c	logs were in tl	ne room []					
Fluency: Name maximum number of words in one minute that begin with the letter F. [] (N ≥ 11words)											
ABSTRACTION		[] train - bicycle									
Similarity between e.g. orange - banana = fruit	-	[] watch - ruler									
DELAYED RECALL	Has to recall words	FACE	VELVET	CHURCH	DAISY	RED	/5				
Memory (MIS) X3	WITLENO	[]	[]	[]	[]	[]					
Index X2	Category cue						NO				
Score X1	Multiple choice cue						POINTS				
ORIENTATION	[] Dat	e [] Mo	nth []Y	ear []D	ay []Place	[] City	/6				
© Z. Nasreddine MD		www	.mocate:	st.org	TOTAL		/22				
Administered by :		Add 1 point	if ≤ 12 yr eo	du	MIS: /15	(Normal ≥	19/22)				

Training and Certification are required to ensure accuracy

NEST #
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Visit 4 / Day 90

Oral Trail Making Test (Optional)

DESCRIPTION

Brief measure assessing mental sequencing and switching.

SOURCE

Ricker JH, Axelrod BN, Houtler BD. Clinical validation of the oral trail making test. Neuropsychiatry Neuropsychology and Behavioral Neurology. 1996;9(1):50-53.

For normative data, please see: Strauss, E., Sherman, E. M. S., & Spreen, O. (2006). A compendium of neuropsychological tests: Administration, norms, and commentary (3rd ed.). Oxford University Press.

INSTRUCTIONS

Part A

Examiner: "OK, here is something a little different. I'd like you to count from 1 to 25 as quickly as you can. 1, 2, 3, 4, and so on. Ready? Begin."

Start timing as soon as you say "Begin." If a mistake is made, stop the participant and have them continue with the series from the last correct number by saying: "You last said '[specific number],' please continue from there." Do not stop timing during corrections.

If the participant stops for 5 seconds or more before completing, you may prompt with "Please keep going." If the participant does not recall where they are, provide the last correct response by saying: "You last said '[specific number],' please continue from there," and score as an error. After a further delay of 15 seconds or more, discontinue. Enter the appropriate reason code 995-998 from the key and leave total number of errors and correct responses blank. Allow a maximum of 100 seconds for the test. If the participant is not finished by 100 seconds, the score is 100.

Record the time in seconds to complete the series, including the time to offer corrections. Be sure to write down where errors occurred on the score sheet. You will record the total number of errors as well.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

Time to completion:	 (seconds)
Total number of errors:	 -
Total number correct:	

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PART B

Examiner: "Now I'd like you to switch between numbers and letters when you count. So you would say the number 1, and then say the letter A, then number 2, then letter B and so on, as quickly as you can. Let's do a practice trial first. Count to the number 4, switching between numbers and letters. Ready? Begin."

If participant makes a mistake, say, "No, that was incorrect, it should be 1, A, 2, B, 3, C, 4." Allow participant to practice up to three attempts. Repeat instructions with guidance twice. If participant still does not understand, discontinue Part B and go on to the next task. Record the time to completion as "300," enter the appropriate reason code, 995–998, from the key, and leave total number of errors and correct responses blank.

If participant is able to complete the practice say: "Now I want you to switch between numbers and letters when you count 1, A, 2, B, 3, C, and so on until you reach the number 13. Ready, begin."

Start timing as soon as you say "Begin." If a mistake is made, stop the participant and have them continue with the series from the last correct pair by saying: "You said '[specific number] [specific letter];' Continue from there." Do not stop timing during corrections. If the participant stops for 5 seconds or more before completing, you may prompt with "Please keep going." If the participant does not recall where they are, provide last correct pair by saying: "You said '[specific number] [specific letter];'continue from there," and score as an error. You can remind the participant "Number-letter" to keep them on task. After a further delay of 15 seconds or more, discontinue and enter the appropriate reason code, 995–998, from the key and leave total number of errors and correct responses blank. Allow a maximum of 300 seconds for the test. If the participant is not finished by 300 seconds, the score is 300.

Record the time in seconds to complete the series, including the time to offer corrections. Be sure to write down where errors occur on the score sheet. You will record the total number of errors as well.

Pra	ctice	1						Pra	actice	e 2						Р	ract	ice 3	3				
1	A	2	В	3	C	4		1	A	2	В	3	C	4		1		A	2	В	3	C	4
Att	empt																						
1	A	2	В	3	С	4	D	5 1	E 6	F	7	G	8	Н	9	ı	10	J	11	K	12	L	13

Oral Trail Making Test, Part B Scoring worksheet

Time to completion:	 (seconds)
Total number of errors:	 =
Total number correct:	

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Richmond Agitation Sedation Scale (RASS) *

Score	re Term Description			
+4	Combative	Overtly combative, violent, immediate danger to staff		
+3	Very agitated	Pulls or removes tube(s) or catheter(s); aggressive		
+2	Agitated	Frequent non-purposeful movement, fights ventilator		
+1	Restless	Anxious but movements not aggressive vigorous		
0	Alert and calm			
-1	Drowsy	Not fully alert, but has sustained awakening		
		(eye-opening/eye contact) to <i>voice</i> (≥10 seconds)	Verbal	
-2	Light sedation	Briefly awakens with eye contact to voice (<10 seconds)	Stimulation	
-3	Moderate sedation	Movement or eye opening to voice (but no eye contact)		
-4	Deep sedation	No response to voice, but movement or eye opening) 5	
		to physical stimulation	Physical Stimulation	
-5	Unarousable	No response to voice or physical stimulation		

Procedure for RASS Assessment

4	\sim 1	
	Observe	natient
1.	O U S C I V C	panent

a. Patient is alert, restless, or agitated. (score 0 to +4)

2. If not alert, state patient's name and say to open eyes and look at speaker.

- b. Patient awakens with sustained eye opening and eye contact. (score –1)
- c. Patient awakens with eye opening and eye contact, but not sustained. (score -2)
- d. Patient has any movement in response to voice but no eye contact. (score -3)
- 3. When no response to verbal stimulation, physically stimulate patient by shaking shoulder and/or rubbing sternum.
 - e. Patient has any movement to physical stimulation. (score –4)
 - f. Patient has no response to any stimulation. (score –5)

^{*} Sessler CN, Gosnell M, Grap MJ, Brophy GT, O'Neal PV, Keane KA et al. The Richmond Agitation-Sedation Scale: validity and reliability in adult intensive care patients. Am J Respir Crit Care Med 2002; 166:1338-1344.

^{*} Ely EW, Truman B, Shintani A, Thomason JWW, Wheeler AP, Gordon S et al. Monitoring sedation status over time in ICU patients: the reliability and validity of the Richmond Agitation Scale (RASS). JAMA 2003; 289:2983-2991.

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Visit 4 / Day 90

CAM-ICU Worksheet

Feature 1: Acute Onset or Fluctuating Course	Score	Check here if Present
Is the pt different than his/her baseline mental status? OR Has the patient had any fluctuation in mental status in the past 24 hours as evidenced by fluctuation on a sedation scale (i.e., RASS), GCS, or previous delirium assessment?	Either question Yes	
Feature 2: Inattention		
<u>Letters Attention Test</u> (See training manual for alternate Pictures)		
<u>Directions</u> : Say to the patient, "I am going to read you a series of 10 letters. Whenever you hear the letter 'A,' indicate by squeezing my hand." Read letters from the following letter list in a normal tone 3 seconds apart.	Number of Errors >2 →	
SAVEAHAART		
Errors are counted when patient fails to squeeze on the letter "A" and when the patient squeezes on any letter other than "A."		
Feature 3: Altered Level of Consciousness		
Present if the Actual RASS score is anything other than alert and calm (zero)	RASS anything other than zero →	
Feature 4:Disorganized Thinking		
Yes/No Questions (See training manual for alternate set of questions)		
 Will a stone float on water? Are there fish in the sea? Does one pound weigh more than two pounds? Can you use a hammer to pound a nail? 		
Errors are counted when the patient incorrectly answers a question.	Combined number of	
Command Say to patient: "Hold up this many fingers" (Hold 2 fingers in front of patient) "Now do the same thing with the other hand" (Do not repeat number of fingers) *If pt is unable to move both arms, for 2 nd part of command ask patient to "Add one more finger"	errors >1→	
An error is counted if patient is unable to complete the entire command.		

	Criteria Met →	
		CAM-ICU
Overall CAM-ICU		Positive
		(Delirium Present)
Feature 1 plus 2 and either 3 or 4 present = CAM-ICU positive	Criteria Not Met →	
		CAM-ICU
		Negative
		(No Delirium)

-	estionnaire (PHQ-9)		6.1. 6.11		
1. Over the last two	weeks how often have you be	Not at all (0)	Several days (1)	More than half the days	Nearly every day (3)
a. Little interest or pl	easure in doing things.				
b. Feeling down, dep	essed, or hopeless.				
c. Trouble falling/stay	ring asleep, sleeping too				
d. Feeling tired or hav	ring little energy				
e. Poor appetite or ov	vereating.				
•	yourself, or that you are a yourself or your family				
	ing on things, such as aper or watching TV.				
people could have being so fidgety or	g so slowly that other noticed. Or the opposite; restless that you have nd more than usual.				
i. Thoughts that you or of hurting yours	would be better off dead elf in some way.				

□Very difficult

☐Extremely difficult

□Not difficult at all □Somewhat difficult

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PTSD CheckList – Civilian Version (PCL-C)

nstruction to patient: Below is	s a list of problems and co	mplaints that veterans so	ometimes have in respon	se to stressful life

Client's Name:

experiences. Please read each one carefully, put an "X" in the box to indicate how much you have been bothered by that problem *in the last month*.

Na	Desmana	Not at all	A little bit	Moderately	Quite a bit	Extremely
No.	Response	(1)	(2)	(3)	(4)	(5)
1.	Repeated, disturbing <i>memories, thoughts, or images</i> of a stressful experience from the past?					
2.	Repeated, disturbing <i>dreams</i> of a stressful experience from the past?					
3.	Suddenly acting or feeling as if a stressful experience were happening again (as if you were reliving it)?					
4.	Feeling very upset when something reminded you of a stressful experience from the past?					
5.	Having <i>physical reactions</i> (e.g., heart pounding, trouble breathing, or sweating) when <i>something reminded</i> you of a stressful experience from the past?					
6.	Avoid thinking about or talking about a stressful experience from the past or avoid having feelings related to it?					
7.	Avoid <i>activities</i> or <i>situations</i> because they <i>remind you</i> of a stressful experience from the past?					
8.	Trouble remembering important parts of a stressful experience from the past?					
9.	Loss of interest in things that you used to enjoy?					
10.	Feeling distant or cut off from other people?					
11.	Feeling <i>emotionally numb</i> or being unable to have loving feelings for those close to you?					
12.	Feeling as if your future will somehow be cut short?					
13.	Trouble falling or staying asleep?					
14.	Feeling irritable or having angry outbursts?					
15.	Having difficulty concentrating?					
16.	Being "super alert" or watchful on guard?					
17.	Feeling jumpy or easily startled?					

PCL-M for DSM-IV (11/1/94) Weathers, Litz, Huska, & Keane National Center for PTSD - Behavioral Science Division

This is a Government document in the public domain.

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PTSD CheckList – Civilian Version (PCL-C)

The PCL is a standardized self-report rating scale for PTSD comprising 17 items that correspond to the key symptoms of PTSD. Two versions of the PCL exist: 1) PCL-M is specific to PTSD caused by military experiences and 2) PCL-C is applied generally to any traumatic event.

The PCL can be easily modified to fit specific time frames or events. For example, instead of asking about "the past month," questions may ask about "the past week" or be modified to focus on events specific to a deployment.

How is	the	PCL	com	pleted?
--------	-----	------------	-----	---------

	PCL				

□ Respondents indicate how much they have been bothered by a symptom over the past month using a 5-point (1–5) scale, circling their responses. Responses range from 1 Not at All – 5 Extremely

How is the PCL Scored?

- 1) Add up all items for a total severity score or
- 2) Treat response categories **3–5** (*Moderately* or above) as symptomatic and responses **1–2** (below *Moderately*) as non-symptomatic, then use the following DSM criteria for a diagnosis:
- Symptomatic response to at least 1 "B" item (Questions 1–5),
- Symptomatic response to at least 3 "C" items (Questions 6-12), and
- Symptomatic response to at least 2 "D" items (Questions 13–17)

Are Results Valid and Reliable?

☐ Two studies of both Vietnam and Persian Gulf theater veterans show that the PCL is both valid and reliable (Additional references are available from the DHCC)

What Additional Follow-up is Available?

All military health system beneficiaries with	health concerns they	believe are	deployment-related
are encouraged to seek medical care			

- □ Patients should be asked, "Is your health concern today related to a deployment?" during all primary care visits.
- If the patient replies "**yes**," the provider should follow the Post-Deployment Health Clinical Practice Guideline (PDH-CPG) and supporting guidelines available through the DHCC and www.PDHealth.mil

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Stroke Impact Scale VERSION 3.0

The purpose of this questionnaire is to evaluate how stroke has impacted your health and life. We want to know from **YOUR POINT OF VIEW** how stroke has affected you. We will ask you questions about impairments and disabilities caused by your stroke, as well as how stroke has affected your quality of life. Finally, we will ask you to rate how much you think you have recovered from your stroke.

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Stroke Impact Scale

These questions are about the physical problems which may have occurred as a result of your stroke.

1. In the past week, how would you rate the strength of your	A lot of strength	Quite a bit of strength	Some strength	A little strength	No strength at all
a. Arm that was <u>most affected</u> by your stroke?	5	4	3	2	1
b. Grip of your hand that was most affected by your stroke?	5	4	3	2	1
c. Leg that was <u>most affected</u> by your stroke?	5	4	3	2	1
d. Foot/ankle that was most affected by your stroke?	5	4	3	2	1

These questions are about your memory and thinking.

2. In the past week, how difficult was it for you to	Not difficult at all	A little difficult	Somewhat difficult	Very difficult	Extremely difficult
a. Remember things that people just told you?	5	4	3	2	1
b. Remember things that happened the day before?	5	4	3	2	1
c. Remember to do things (e.g. keep scheduled appointments or take medication)?	5	4	3	2	1
d. Remember the day of the week?	5	4	3	2	1
e. Concentrate?	5	4	3	2	1
f. Think quickly?	5	4	3	2	1
g. Solve everyday problems?	5	4	3	2	1

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These questions are about how you feel, about changes in your mood and about your ability to control your emotions since your stroke.

3. In the past week, how often did you	None of the time	A little of the time	Some of the time	Most of the time	All of the time
a. Feel sad?	5	4	3	2	1
b. Feel that there is nobody you are close to?	5	4	3	2	1
c. Feel that you are a burden to others?	5	4	3	2	1
d. Feel that you have nothing to look forward to?	5	4	3	2	1
e. Blame yourself for mistakes that you made?	5	4	3	2	1
f. Enjoy things as much as ever?	5	4	3	2	1
g. Feel quite nervous?	5	4	3	2	1
h. Feel that life is worth living?	5	4	3	2	1
i. Smile and laugh at least once a day?	5	4	3	2	1

The following questions are about your ability to communicate with other people, as well as your ability to understand what you read and what you hear in a conversation.

4. In the past week, how difficult was it to	Not difficult at all	A little difficult	Somewhat difficult	Very difficult	Extremely difficult
a. Say the name of someone who was in front of you?	5	4	3	2	1
b. Understand what was being said to you in a conversation?	5	4	3	2	1
c. Reply to questions?	5	4	3	2	1
d. Correctly name objects?	5	4	3	2	1
e. Participate in a conversation with a group of people?	5	4	3	2	1
f. Have a conversation on the telephone?	5	4	3	2	1
g. Call another person on the telephone, including selecting the correct phone number and dialing?	5	4	3	2	1

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The following questions ask about activities you might do during a typical day.

5. In the past 2 weeks, how difficult was it to	Not difficult at all	A little difficult	Somewhat difficult	Very difficult	Could not do at all
a. Cut your food with a knife and fork?	5	4	3	2	1
b. Dress the top part of your body?	5	4	3	2	1
c. Bathe yourself?	5	4	3	2	1
d. Clip your toenails?	5	4	3	2	1
e. Get to the toilet on time?	5	4	3	2	1
f. Control your bladder (not have an accident)?	5	4	3	2	1
g. Control your bowels (not have an accident)?	5	4	3	2	1
h. Do light household tasks/chores (e.g. dust, make a bed, take out garbage, do the dishes)?	5	4	3	2	1
i. Go shopping?	5	4	3	2	1
j. Do heavy household chores (e.g. vacuum, laundry or yard work)?	5	4	3	2	1

The following questions are about your ability to be mobile, at home and in the community.

6. In the past 2 weeks, how difficult was it to	Not difficult at all	A little difficult	Somewhat difficult	Very difficult	Could not do at all
a. Stay sitting without losing your balance?	5	4	3	2	1
b. Stay standing without losing your balance?	5	4	3	2	1
c. Walk without losing your balance?	5	4	3	2	1
d. Move from a bed to a chair?	5	4	3	2	1
e. Walk one block?	5	4	3	2	1
f. Walk fast?	5	4	3	2	1
g. Climb one flight of stairs?	5	4	3	2	1
h. Climb several flights of stairs?	5	4	3	2	1
i. Get in and out of a car?	5	4	3	2	1

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The following questions are about your ability to use your hand that was MOST AFFECTED by your stroke.

7. In the past 2 weeks, how difficult was it to use your hand that was most affected by your stroke to	Not difficult at all	A little difficult	Somewhat difficult	Very difficult	Could not do at all
a. Carry heavy objects (e.g. bag of groceries)?	5	4	3	2	1
b. Turn a doorknob?	5	4	3	2	1
c. Open a can or jar?	5	4	3	2	1
d. Tie a shoe lace?	5	4	3	2	1
e. Pick up a dime?	5	4	3	2	1

The following questions are about how stroke has affected your ability to participate in the activities that you usually do, things that are meaningful to you and help you to find purpose in life.

8. During the past 4 weeks, how much of the time have you been	None of the time	A little of the time	Some of the time	Most of the time	All of the time
limited in					
a. Your work (paid, voluntary or other)	5	4	3	2	1
b. Your social activities?	5	4	3	2	1
c. Quiet recreation (crafts, reading)?	5	4	3	2	1
d. Active recreation (sports, outings, travel)?	5	4	3	2	1
e. Your role as a family member and/or friend?	5	4	3	2	1
f. Your participation in spiritual or religious activities?	5	4	3	2	1
g. Your ability to control your life as you wish?	5	4	3	2	1
h. Your ability to help others?	5	4	3	2	1

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9. Stroke Recovery

On a scale of 0 to 100, with 100 representing full recovery and 0 representing no recovery, how much have you recovered from your stroke?

	100	Full Recovery
_	90	
	80	
	70	
	60	
<u> </u>	50	
	40	
	30	
	20	
	10	
	_ 0	No Recovery

http://www.kumc.edu/school-of-medicine/preventive-medicine-and-public-health/research-and-community-engagement/stroke-impact-scale.html

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The Modified Rankin Scale (mRS)

(Use web calculator at www.modifiedrankin.com)

- 0 No symptoms
- 1 No significant disability; able to carry out all usual activities, despite some symptoms
- 2 Slight disability; able to look after own affairs without assistance, but unable to carry out all previous activities
- 3 Moderate disability; requires some help, but able to walk unassisted
- 4 Moderately severe disability; unable to attend to own bodily needs without assistance, and unable to walk unassisted
- 5 Severe disability; requires constant nursing care and attention, bedridden, incontinent
- 6 Dead

References:

Rankin J (May 1957). "Cerebral vascular accidents in patients over the age of 60. II. Prognosis". Scott Med J 2 (5): 200–15

Patel, N., et al. Simple and reliable determination of the modified Rankin Scale in neurosurgical and neurological patients: The mRS-9Q. *Neurosurgery*, published online in advance of print 26 July 2012



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Person Administering Scale		
Administer stroke scale items in the order listed. Record plack and change scores. Follow directions provided for earliest the clinician thinks the patient can do. The clinician shexcept where indicated, the patient should not be coached (i	ch exam technique. Scores should reflect what the patien nould record answers while administering the exam and wo i.e., repeated requests to patient to make a special effort).	t does, not ork quickly
Instructions	Scale Definition	Score
1a. Level of Consciousness: 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	 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 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 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.

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.

- 2. Best Gaze: Only horizontal eye movements will be tested. 0 = Normal.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

0 = **Performs** both tasks correctly.

1 = **Performs** one task correctly.

2 = **Performs** neither task correctly.

- 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 maneuver.



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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: 6a. Left Leg 6b. Right Leg	



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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:	
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 (arms [not hands], legs, trunk, face) as needed to accurately check for hemisensory loss. A score of 2, "severe or total sensory loss," 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 brainstem stroke who has bilateral loss of sensation is scored 2. If the patient does not respond and is quadriplegic, score 2. Patients in a coma (item 1a=3) are automatically given a 2 on this item.	 0 = Normal; no sensory loss. 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 of being touched. 2 = Severe to total sensory loss; patient is not aware of being touched in the face, arm, and leg. 	
9. Best Language: A great deal of information about comprehension will be obtained during the preceding sections of the examination. For this scale item, the patient is asked to describe what is happening in 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 a coma (item 1a=3) will automatically score 3 on this item. The examiner must choose a score for 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.	0 = No aphasia; normal. 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 materials difficult or impossible. For example, in conversation about provided materials, examiner can identify picture or naming card content from patient's response. 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. 3 = Mute, global aphasia; no usable speech or auditory comprehension.	
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. Only if the patient is intubated or has other physical barriers to producing speech, the examiner should record the score as untestable (UN), and clearly write an explanation for this choice. Do not tell the patient why he or she is being tested.	0 = Normal. 1 = Mild-to-moderate dysarthria; patient slurs at least some words and, at worst, can be understood with some difficulty. 2 = Severe dysarthria; 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. UN = Intubated or other physical barrier, explain:	



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auditory, spatial, or personal inattention		

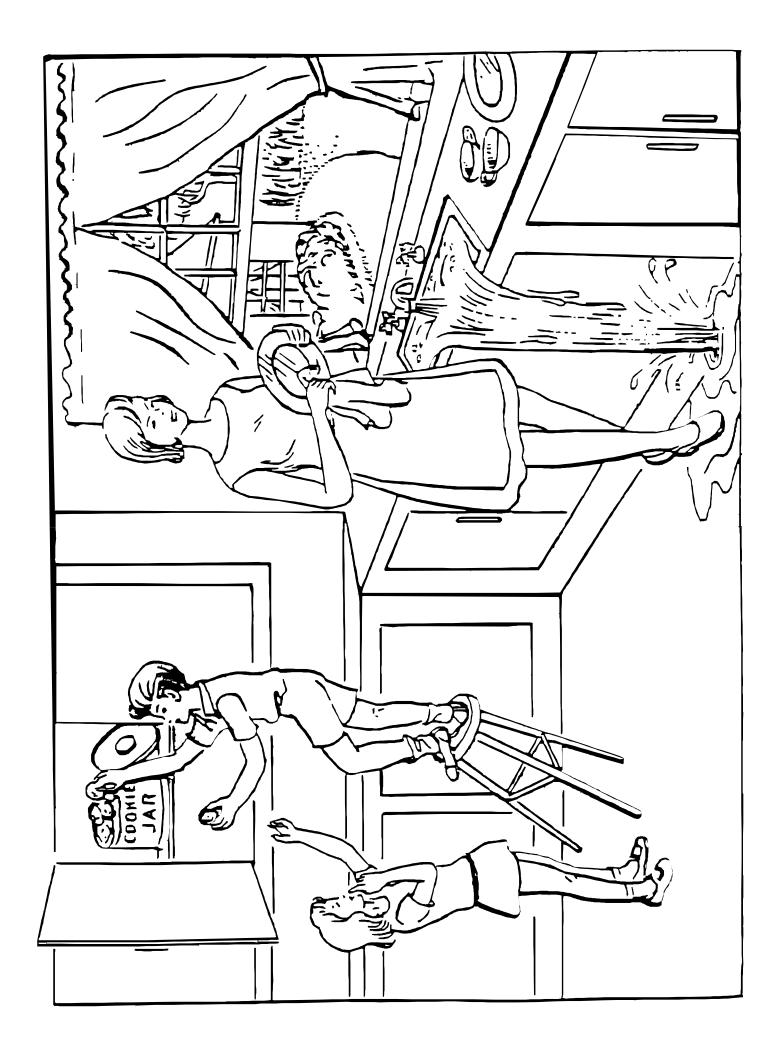
11. Extinction and Inattention (formerly Neglect): Sufficient information to identify neglect may be obtained during the prior testing. If the patient has a severe visual loss preventing visual double simultaneous stimulation, and the cutaneous stimuli are normal, the score is normal. If the patient has aphasia but does appear to attend to both sides, the score is normal. The presence of visual spatial neglect or anosagnosia may also be taken as evidence of abnormality. Since the abnormality is scored only if present, the item is never untestable.

Interval: [] Baseline [] 2 hours post treatment [] 24 hours post onset of [] 3 months [] Other _____(____

0 = No abnormality.

- 1 = Visual, tactile, auditory, spatial, or personal inattention or extinction to bilateral simultaneous stimulation in one of the sensory modalities.
- 2 = Profound hemi-inattention or extinction to more than one modality; does not recognize own hand or orients to only one side of space.

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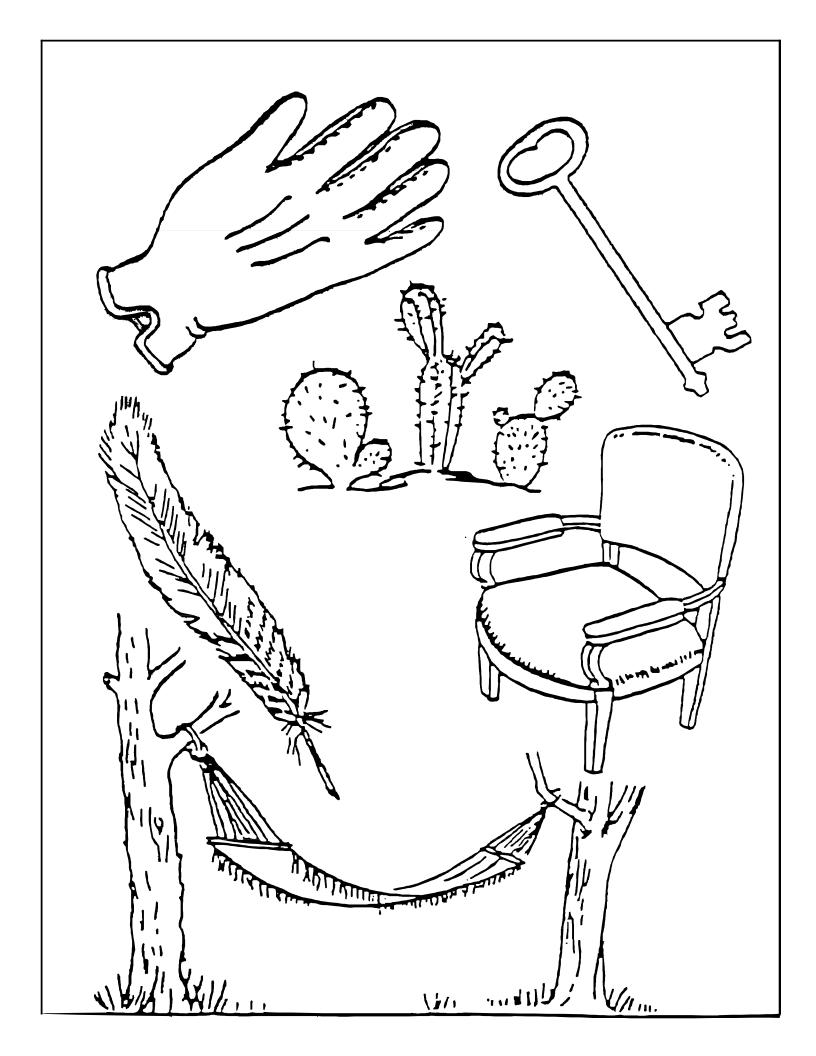
You know how.

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