

Appendix 1: Neuropsychological Testing

Neuropsychological testing will include all or parts of the following tests. Only parts will be used where the same information has already been collected elsewhere or in the interests of time. To provide flexibility of study procedures to minimise the burden of participation for participants, the questions can be asked by a study researcher in person, or by phone, or possibly posted to the patient to complete and return. Those which can only be done by the patient personally completing a form are referred to as 'patient facing'.

Patient facing:

Trail Making Test A and B timed - Connecting 25 targets in a sequential order as numbers (TMT-A) and alternating between numbers and letters (TMT-B) with recording of time taken to complete each test

Letter digit coding test (LDCT): 60 second test of processing speed whereby participant fills numbers in boxes to match corresponding letters

Boston Naming Test- Naming of 15 items presented as pictures

Non patient facing:

Montreal Cognitive Assessment (MoCA): 30 item instrument testing visuospatial/executive function, naming, memory, attention, language, abstraction, delayed recall and orientation

The Modified Telephone Interview for Cognitive Status (TICS-m): orientation, registration, comprehension, semantic and recent memory, delayed recall

Hopkins verbal learning test - Memorising a list of 12 words presented in three consecutive trials, followed by recall and recognition after a delay

Phonemic Fluency- Number of words beginning with the letter 'a' and 's' generated within 60 s

Semantic Fluency - Number of animal names generated within 60 s

QUESTIONNAIRES

To the Patient and can be completed by the Informant on the Patient's behalf

Modified Rankin Scale (mRS)

Rockwood Clinical frailty scale (CFS)

Barthel Index (BI)

Lawton Instrumental Activities of Daily Living

The Patient Health Questionnaire 9 (PHQ-9) (includes PHQ-2 screening questions)

The Patient Health Questionnaire Somatic, Anxiety and Depressive Symptom Scales (PHQ-SADS) (an extended version of the PHQ-9 including 15 extra questions about somatic symptoms)

Generalized Anxiety Disorder scale (GAD-7) (includes GAD-2 screening questions)

Zung Self-Rating depression scale (short ZUNG)

Brief fatigue inventory (BFI)

Short form Stroke Impact Scale (SF-SIS)

Office for national statistics – personal wellbeing questionnaire (ONS-4)

EQ-5D-3L with Visual Analogue Scale (VAS)

ONS-4 (well being)

To the Informant specifically

Apathy screening question from Neuropsychiatric Inventory

Single delirium screening question from the 4AT delirium screening tool

The Informant based questionnaire on cognitive decline in the elderly (IQCODE) - a well validated measure of cognitive change over the last years. The 16-item paper based questionnaire is designed to be completed by an informant or proxy.

Neuropsychiatric Inventory Questionnaire (NPI-Q) - a test of some of the behaviours commonly seen in patients with dementia. This test is done with an informant care giver, preferably someone who lives with the patient. The 12 item questionnaire can be self-administered by informant or conducted as part of an interview

Staged assessment for R4VaD study**Baseline assessment.** Try to complete in person, but not necessarily one sittingRunning time will be reduced by 5 mins if **items 1, 18-20 and 22 are taken from informant**

1	Modified Rankin scale (pre-stroke) and place of residence		This is the minimum dataset required at baseline, complete tests in order Ideally complete all of Q1-8, but participant can stop at any time Score for 1 can be taken from informant (if available) Interview could stop here. If patient able to continue go to next steps	2 min
2	Five words (repeat) Face velvet church daisy red	MoCA		7 min
3	Orientation Date/month/year/day/place/city			8 min
4	Phonemic fluency – letter 'F' one minute			9 min
5	Five word recall (words from 2)			10 min
6	Attentional tasks: number reversing, tapping, serial subtraction (MOCA)		MoCA, Along with 3 this gives 4A-test	
7a	Copy cube	MoCA	This is the core dataset with more emphasis on cognition Try to complete all of these in order, but participant can stop at any time Interview could stop here If patient able to continue go to next steps	20min
7b	Clock drawing	MoCA		
8	Animal naming	MoCA		
9	Language and abstraction	MoCA		
10	Trail making A+B	MoCA /Trails, along with 2,3,4,5,8 gives full MoCA		
11	Two question depression screener - Over last two weeks have you felt down, depressed, hopeless Have you had little pleasure in doing things	PHQ-2		
12	Two question and anxiety screener - Have you been feeling nervous, anxious or on edge Have you been unable to stop or control worrying	GAD-2		
13	Word list recall immediate	TICS-M		
14	Orientation age and phone number	TICS-M		
15	Comprehension, semantic, recent memory	TICS-M		
16	Word list recall delayed	TICS-M, along with 3, 8, 11 gives full TICS-M	25 min	
17	Depression Qs	Short Zung	This is the preferred dataset Scores for 18-20 can be taken from informant (if available) Interview could stop here If patient willing go to next steps	30 min
18	Clinical frailty score	CFS		
19a-c	Short Barthel 3 Qs	Short Barthel Pre-stroke		
20a-h	Instrumental ADLs	Lawton IADL pre-stroke		
21	Fatigue screening question	BFI screening		

22a-g	Remaining questions from Barthel index	Barthel Pre-stroke	This is the extended dataset Scores for 22 can be taken from informant (if available) Interview stops here	40min
23a-h	PHQ-9	PHQ-9		
24a-g	GAD7	GAD7		

6+/-2 week post-baseline assessment Administration time will be reduced by 10 mins if 1,22-24 and 28 are taken from informant . If patient unable to complete mood questions, informant versions are available 10-12, 19, 32 are not possible if administered via telephone

1	Modified Rankin scale and place of residence	mRS	This is the minimum dataset required at baseline, complete tests in order participant can stop at any time Score for 1 can be taken from informant (if available) Interview could stop here. If patient able to continue go to next steps	2 min
2	Five words (repeat) Face velvet church daisy red	MoCA		7 min
3	Orientation Date/month/year/day/place/city			8 min
4	Phonemic fluency – letter 'F' one minute			9 min
5	Five word recall (words from 1)			10min
6	Attentional tasks: number reversing, tapping,serial subtraction			MoCA, Along with 3 this gives 4A-test
7	Language and abstraction from MoCA	Along with 2-5,8 this give full MoCA	This is the core dataset with more emphasis on cognition Try to complete all of these in order, but participant can stop at any time	
8	Cube, clock from MoCA			
9	Animal naming from MoCA			
10	Trails A and B			With 2-5,8,9,10,11 this completes the ESO test
11	Two question depression screener	With 6 this completes PHQ	Interview could stop here If patient able to continue go to next steps	
12	Two question anxiety screener			
13	Word list recall from TICS-m (10 words) immediate			
14	Orientation questions from TICS-M (age, 'phone number)			
15	Comprehension, semantic, recent memory from TICS-m			
16	Word list recall from TICS-m (10 words) delayed			
17	Remainder of PHQ-9	With 6 this completes PHQ		
18	Remainder of GAD-7	With 7 this completes GAD		
19	Letter digit coding	LCDT		35 min
20	Somatic/depression/anxiety/panic questions to complete PHQSADS	PHQSADS. With 11, 12 completes PHQ	This is the preferred dataset Scores for 22-24 can be taken from	
21	Depression questions from short Zung	short Zung		40 min
22	Clinical frailty score	CFS		45 min

23	Short form Barthel Index	Barthel short form	informant (if available) Interview could stop here If patient willing go to next steps	
24	Lawton Extended-ADL	Lawton IADL		
25	Screening question from brief fatigue inventory	BFI screening		
26	EQ-5D-3L and Visual Analogue Scale	EQ-5D-3L and VAS		
27	HVLT Trials 1-3	HVLT	This is the extended dataset Scores for 28 can be taken from informant (if available) The interview stops here	
28	Remainder of Barthel Index	Barthel Index		
29	Remainder of brief fatigue inventory	BFI		
30	HVLT 4-5	HVLT		
30	Short form SIS	SF-SIS		
31	ONS-4 (well being)	ONS-4		
32	Boston naming	Boston naming test		
33	Phonemic fluency – letter ‘A’ and ‘S’ one minute			
34	Semantic fluency – animal naming			

Telephone assessment (annual) Administration time can be reduced by 5 mins if 1,19,22,24 completed by informant
Need to decide if will also ask for paper completed forms to be posted back

1	Modified Rankin scale and place of residence			
2	Five words (repeat) Face velvet church daisy red	VCI-H 5 minute protocol	This is the minimum dataset required at baseline, complete tests in order.	
3	Orientation Date/month/year/day/place/city			
4	Phonemic fluency – letter ‘F’ one minute			
5	Five word recall (words from 2)			
6	Attentional task from MoCA	With 1-4,7 completes t-MoCA	Ideally complete all of Q1-8, but participant can stop at any time. Score for 8 can be taken from informant (if available).	5 min
7	Repetition and abstraction form MoCA			
8	Two question depression screener	PHQ-2	Interview could stop here. If patient able to continue go to next steps.	6 min
9	Two question anxiety screener	GAD-2		7 min
				10 min
10	Word list recall from TICS-m (10 words) immediate	Along with 2,7,11 this gives full TICS-m	This is the core dataset with more emphasis on cognition. Try to complete all of these in order, but participant can stop at any time Interview could stop here.	
11	Orientation questions from TICS-M (age, ‘phone number)			
12	Comprehension, semantic, recent memory from TICS-m			
13	Word list recall from TICS-m (10 words) delayed			
14	Digit span		If patient able to continue go to next steps.	
15	Remainder of PHQ-9	With 7 this completes PHQ		
16	Remainder of GAD-7	With 8 this completes GAD		30 min
17	Remainder of PHQ-SADS	With 18,19 completes PHQ	This is the preferred dataset.	

18	Questions from short Zung		Scores for 19-20 can be taken from informant (if available). Interview could stop here. If patient willing go to next steps.	
19	Short form Barthel Index			
20	Screening question from Brief Fatigue Inventory			
21	EQ-5D-3L and VAS			35 min
22	Remainder of Barthel Index		This is the extended dataset Scores for 24-6 can be taken from informant (if available)	
23	Remainder of Brief Fatigue Inventory			
24	Lawton ADL			
25	Short form SIS			
26	ONS-4 (well being)			40 min

Baseline informant assessment All content possible over 'phone

1	IQCODE (16 questions) for pre-stroke cognition		This is the core dataset	
2	Delirium questions from 4-AT			
3	Apathy screening Q from NPI-Q (pre-stroke)			5 min
4	Modified Rankin Scale (pre-stroke)		Not necessary to complete if data already available from patient	
5	Barthel Index (pre-stroke)			
6	Clinical Frailty Scale (pre-stroke)			
7	Lawton ADL (pre-stroke)			10 min

6+/-2 week post-baseline assessment All content possible over 'phone

1	Modified Rankin Scale and place of residence	mRS current	This is the core dataset Interview could stop here	
2	Delirium questions from 4-AT	4AT		
3	Apathy screening Q from NPI-Q	NPI-Q apathy		1 min
4	Barthel Index	Barthel index current	Not necessary to complete if data already available from patient	
5	Clinical Frailty Scale	CFS current		
6	Lawton ADL	Lawton IADL current		
7	Neuropsychiatric Inventory Questionnaire	NPIQ		

Telephone assessment (annual) for informant

1	Modified Rankin Scale and place of residence		This is the core dataset Interview could stop here	
2	IQCODE (16 questions)			
3	Delirium questions from 4-AT			
4	Apathy screening Q from NPI-Q			5 min
5	Full NPI-Q		This is the preferred dataset	

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6	Zarit care-giver burden			10 min
7	Barthel Index		Not necessary to complete if data already available from patient	
8	Clinical Frailty Scale			
9	Lawton ADL			