



ADDENDUMS

ADDENDUM 1: Ethical approval by the Ethics Committee of the Faculty of Health Sciences at the University of Pretoria (S33/2009)



Faculty of Health Sciences Research Ethics Committee

6/05/2009

Number	S33/2009
Title	The effect of visual scanning exercises integrated into task-specific activities on the functional ability in patients with visual perceptual disorders post stroke
Investigator	Andoret van Wyk, Department of Physiotherapy, University of Pretoria (SUPERVISOR: Dr Carina A Eksteen)
Sponsor	None
Study Degree:	M.Physt (Research)

This Student Protocol has been considered by the Faculty of Health Sciences Research Ethics Committee, University of Pretoria on 5/05/2009 and found to be acceptable.

- Prof AG Nienaber (female) BA (Hons) (Wits); LLB (Pretoria); LLM (Pretoria); LLD (Pretoria); Diploma in Datametrics (UNISA)
 Prof V.O.L. Karusseit MBChB; MFGP (SA); M.Med (Chir); FCS (SA)
 Prof J A Ker Deputy Dean: MBChB (Pretoria); MMed (Int) (Pretoria); MD (Pretoria)
 Prof M Kruger (female) MBChB.(Pretoria) M. Med.Paed.(Pretoria) M. Phil. (Applied Ethics) (Stell) PhD.(Leuven) (Special Advisory Member)
 Dr N K Likibi MBChB.; Med. Adviser (Gauteng Dept. of Health)
 Dr T S Marcus (female) BSc (LSE), PhD (University of Lodz, Poland)
 Mrs M C Nzeku (female) BSc (NUL); MSc Biochem (UCL,UK)
 Snr Sr J. Phatoli (female) BCur (EtAI); BTech Oncology
 Mr Y M Sikweyiya MPH (Umea University Umea, Sweden); Master Level Fellowship (Research Ethics) (Pretoria and UKZN); Post Grad. Diploma in Health Promotion (Unitra); BSc in Health Promotion (Unitra)
 Dr L Schoeman (female) BPharm (North West); BAHons (Psychology)(Pretoria); PhD (KwaZulu-Natal); International Diploma in Research Ethics (UCT)
 Dr R Sommers Deputy Chairperson: (female) MBChB; M.Med (Int); MPhar.Med
 Prof C W van Staden CHAIRPERSON: MBChB (Pretoria); MMed(Psych) (Pretoria); MD (Warwick,UK); FCPsych (SA); FTCL (London); UPLM (UNISA)
 Prof TJP Swart BChD, MSc (Odont), MChD (Oral Path)
 Dr AP van der Walt BChD, DGA (Pretoria)

Student Ethics Sub-Committee

- Prof R S K Apatu MBChB (Legon,UG); PhD (Cantab); PGDip International Research Ethics (UCT)
 Dr A M Bergh (female) BA (RAU); BA (Hons) (Linguistics) (Stell); BA (Hons) (German) (UNISA); BEd (Pretoria); PhD (Pretoria); SED (Stell)
 Mrs N Briers (female) BSc (Stell); BSc Hons (Pretoria); MSc (Pretoria); DHETP (Pretoria)
 Dr S I Cronje BA (Pretoria); BD (Pretoria); DD (Pretoria)
 Dr M M Geysler (female) MBChB (Pretoria); BSc (Computer Science)(Pretoria); BSc Hons (Pharm) (Potchefstroom); MpraxMed (Pretoria); MSc (Clinical Epidemiology) (Pretoria); FCEM (SA); Dip PEC (SA)
 Prof D Millard (female) B.lur (Pretoria); LLB (Pretoria); LLM (Pretoria); AIPSA Diploma in Insolvency Law (Pretoria); LLD (UJ)
 Dr S A S Olorunju BSc (Hons). Stats (Ahmadu Bello University -Nigeria); MSc (Applied Statistics (UKC United Kingdom); PhD (Ahmadu Bello University - Nigeria)
 Dr L Schoeman CHAIRPERSON: (female) BPharm (North West); BAHons (Psychology)(Pretoria); PhD (KwaZulu-Natal); International Diploma in Research Ethics (UCT)
 Dr R Sommers Deputy Chairperson (female) MBChB; M.Med (Int); MPhar. Med

DR L SCHOEMAN; BPharm, BA Hons (Psy), PhD;
 Dip. International Research Ethics
 CHAIRPERSON of the Faculty of Health Sciences
 Student Research Ethics Committee, University of Pretoria

DR R SOMMERS; MBChB; M.Med (Int); MPhar.Med.
 DEPUTY CHAIRPERSON of the Faculty of Health Sciences
 Research Ethics Committee, University of Pretoria

☎ 012 354 1677

☎ 0866516047

✉ deepeka.behari@up.ac.za

✉ P O Box 667, Pretoria, 0001

🌐 <http://www.healthethics-up.co.za>

31 Bophelo Road, HW Snyman South Building, Level 2, Room 2.33, Gezina, Pretoria



7.

Number	: S33/2009
Title	: The effect of visual scanning exercises integrated into task-specific activities on the functional ability in patients with visual perceptual disorders post stroke
Investigator	: Andoret van Wyk, Department of Physiotherapy, University of Pretoria (SUPERVISOR: Dr Carina A Eksteen)
Sponsor	: None
Study Degree:	M.Physt (Research)

Comments/Suggestions received from members

Dr R Sommers	Acceptable
Dr S A S Olorunju	Acceptable
Dr M M Geyser	<ul style="list-style-type: none">• Acceptable, awaiting consent from Tshwane rehabilitation centre (Comments received from Investigator. Available on file.)
Dr S I Cronje	Acceptable
Prof D Millard	No comment

Minutes of Meeting: 5 May 2009

- Investigator, Andoret van Wyk and Supervisor, Dr Carina A Eksteen present at the meeting.
- The CEO of the Tshwane Rehabilitation Centre has signed the Gautneg Application Form.
- The visual scanning exercises not included for the one group is problematic. This is at the moment not part of the "standard of care" in physiotherapy, therefore this study is acceptable as it is.
- Approved.



ADDENDUM 2: Permission granted by the Acting Chief Executive Officer of the
Tshwane Rehabilitation Centre

Updated 28-02-2007

**Permission to access Records / Files / Data base at
TSHWANE REHABILITATION CENTER.**

TO: [Name] FROM : MISS ANDORET VAN WYK [Name]
Chief Executive Officer/Information Officer Investigator

.....
Hospital / Clinic Hospital / Clinic OR University of Pretoria

Re: Permission to do research at TSHWANE REHABILITATION CENTER Hospital / Clinic

**TITLE OF STUDY: THE EFFECT OF VISUAL SCANNING EXERCISES INTEGRATED INTO TASK-SPECIFIC
ACTIVITIES ON THE FUNCTIONAL ABILITY IN PATIENTS WITH VISUAL PERCEPTUAL
DISORDERS POST STROKE.**

This request is lodged with you in terms of the requirements of the Promotion of Access to Information Act. No. 2 of 2000.

I am a researcher / student at the Department of PHYSIOTHERAPY at the University of Pretoria.
I am working with DR CARINA A EKSTEEN¹. I herewith request permission on behalf of all of us to conduct a study on the
above topic on the hospital / clinic grounds. This study involves access to patient records.

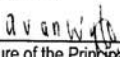
The researchers request access to the following information: clinical files, record books and data bases.

We intend to publish the findings of the study in a professional journal and/ or to present them at professional meetings like
symposia, congresses, or other meetings of such a nature.

We intend to protect the personal identity of the patients by assigning each individual a random code number.

We undertake not to proceed with the study until we have received approval from the Faculty of Health Sciences Research
Ethics Committee, University of Pretoria.

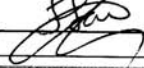
Yours sincerely


Signature of the Principal Investigator

**Permission to do the research study at this hospital / clinic and to access
the information as requested, is hereby approved.**

Title and name of Chief Executive Officer: Ms FB Law

Name of hospital / clinic: Tshwane Rehab Centre

Signature: 
D. 3/4/07

¹ Title(s) and surname(s) of co-investigator(s) / supervisor(s)





INITIAL CONSENT BY DEPARTMENTAL HEAD

I Anna Maria Morris head of Physiotherapy department of Faculty of Health Sciences hospital in consultation with the Chief Executive Officer / Superintendent of this Hospital grant permission to submit an application to conduct a clinical trial/evaluation to the Chairperson (s) of the relevant Ethics, Research and Therapeutic Committees of this Hospital.

The officer conducting the trial/evaluation will be Andoret van Wyk

Designation / Rank _____

HEAD OF DEPARTMENT			DATE		
Signature	Initial(s)	Surname	Day	Month	Year
<u>Anna Maria Morris</u>	<u>AM</u>	<u>Morris</u>	<u>27</u>	<u>03</u>	<u>2009</u>

TRIALIST-INVESTIGATOR			DATE		
Signature	Initial(s)	Surname	Day	Month	Year
<u>Andoret van Wyk</u>	<u>A</u>	<u>VAN WYK</u>	<u>25</u>	<u>03</u>	<u>2009</u>

APPROVAL BY HOSPITAL CHIEF EXECUTIVE OFFICER:

I Francose Law Chief Executive Officer / superintendent of Tshwane Rehab Centre Hospital, hereby agree that this trial / evaluation be conducted in the Physiotherapy Department of this hospital.

The officer conducting the trial will be : Andoret van Wyk

The officer controlling supplies will be: _____

HOSPITAL C.E.O. / Superintendent			DATE		
Signature	Initial(s)	Surname	Day	Month	Year
<u>[Signature]</u>	<u>FB</u>	<u>LAW</u>	<u>3</u>	<u>April</u>	<u>2009</u>

ADDENDUM 3: The Mini-Mental State Examination

**MINI-MENTAL
STATE EXAMINATION
(MMSE)**

Patient Name: _____
Rater Name: _____
Date: _____

Activity	Score	
ORIENTATION – one point for each answer		
Ask: "What is the: (year)(season)(date)(day)(month)?"	_____	
Ask: "Where are we: (state)(county)(town)(hospital)(floor)?"	_____	
REGISTRATION – score 1,2,3 points according to how many are repeated		
Name three objects: Give the patient one second to say each.		
Ask the patient to: repeat all three after you have said them.		
Repeat them until the patient learns all three.		_____
ATTENTION AND CALCULATION – one point for each correct subtraction		
Ask the patient to: begin from 100 and count backwards by 7.		
Stop after 5 answers. (93, 86, 79, 72, 65)		_____
RECALL – one point for each correct answer		
Ask the patient to: name the three objects from above.		_____
LANGUAGE		
Ask the patient to: identify and name a pencil and a watch. (2 points)		_____
Ask the patient to: repeat the phrase "No ifs, ands, or buts." (1 point)		_____
Ask the patient to: "Take a paper in your right hand, fold it in half, and put it on the floor" (1 point for each task completed properly)		_____
Ask the patient to: read and obey the following: "Close your eyes." (1 point)		_____
Ask the patient to: write a sentence. (1 point)		_____
Ask the patient to: copy a complex diagram of two interlocking pentagons. (1 point)		_____
TOTAL (0–30):		_____

References

Folstein MF, Folstein SE, McHugh PR. "Mini-mental state." A practical method for grading the cognitive state of patients for the clinician. J Psychiatr Res. 1975;12:189-198.



↓ ↓
Week 8 post discharge -----Week 16 post discharge

Assessment of your functional ability and progress will be conducted at each visit. You will be asked to fill in forms with questions pertaining to your ability to participate in all activities of daily living and re-integration into the community after discharge from the facility as well as how the stroke affects your life.

HAS THE TRIAL RECEIVED ETHICAL APPROVAL?

This clinical trial Protocol was submitted to the Faculty of Health Sciences Research Ethics Committee, University of Pretoria and written approval has been granted by that committee. The study has been structured in accordance with the Declaration of Helsinki (last update: October 2000), which deals with the recommendations guiding doctors in biomedical research involving human/subjects. A copy of the Declaration may be obtained from the investigator should you wish to review it.

WHAT ARE MY RIGHTS AS A PARTICIPANT IN THIS TRIAL?

Your participation in this research trial is entirely voluntary and you can refuse to participate or stop at any time without stating any reason. Your withdrawal will not affect your access to other medical care for your stroke. The investigator retains the right to withdraw you from the study if it is considered to be in your best interest. If it is discovered that you did not give an accurate history or did not follow the guidelines of the trial you may be withdrawn from the trial at any time.

IS ALTERNATIVE TREATMENT AVAILABLE?

Alternative treatment in the form of general exercise therapy is often used to treat patients with stroke. If you decide not to take part in this study it is possible that your physiotherapist may treat you with other forms of exercise therapy.

MAY ANY OF THESE TRIAL PROCEDURES RESULT IN DISCOMFORT OR INCONVENIENCE?

None of the trial procedures will result in discomfort or inconvenience to you.

WHAT ARE THE RISKS INVOLVED IN THIS TRIAL?

There are no risks involved in this trial.



ARE THERE ANY WARNINGS OR RESTRICTIONS CONCERNING MY PARTICIPATION IN THIS TRIAL?

Other co-morbid disease or disability such as cancer or amputation that will prevent or limit assessment of your functional progress as well as the participation in other pharmacological or rehabilitation intervention studies which can lead to confounding of the results of this study will restrict your participation in this trial. Also if you are planning to move from your local area within twenty (20) weeks since you had been admitted to the study you will be excluded from the trial.

INSURANCE AND FINANCIAL ARRANGEMENTS

Neither you nor your medical scheme or the rehabilitation centre will be expected to pay for any study assessments and treatment during the course of the trial.

SOURCE OF ADDITIONAL INFORMATION

For the duration of the trial, you will be under the care of Tshwane Rehabilitation Centre. If at any time between your visits you have any questions during the trial, please do not hesitate to contact the facility. The telephone number is (012) 354 1000 through which you can reach the authorized person. Please stay in contact with your medical doctor at Tshwane Rehabilitation Centre or Steve Biko Academic Hospital and attend all appointments arranged with the doctor.

CONFIDENTIALITY

All information obtained from the patients during the course of this trial is strictly confidential. Information that may be reported in scientific journals will not include any information which identifies you as a participant in this trial. In connection with this trial, it might be important for the Faculty of Health Sciences Research Ethics Committee, University of Pretoria as well as your personal doctor to have access to your medical records pertaining to this trial.

Any information uncovered regarding your trial results will be held in strict confidence. You will be informed of any finding of importance to your health or continued participation in this trial but this information will not be disclosed to any third party in addition to the ones mentioned above without your written permission.



INFORMED CONSENT

I hereby confirm that I have been informed by the investigator, Andoret van Wyk about the nature, conduct, benefits and risks of clinical trial I have also received, read and understood the above written information (Participant Information Leaflet and Informed Consent) regarding the clinical trial.

I am aware that the results of the trial, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a trial report.

I may, at any stage, without prejudice, withdraw my consent and participation in the trial. I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the trial.

Participant's name _____
(Please print)

Participant's signature _____ Date _____

I, Andoret van Wyk herewith confirm that the above participant has been informed fully about the nature, conduct and risks of the above trial.

Investigator's name _____
(Please print)

Investigator's signature _____ Date _____

Witness's name* _____ Witness's signature _____



ADDENDUM 4b: Participant characteristics

a. Age _____ years

b. Gender

Male

Female

c. Race

White

Black

Coloured

Indian

d. Affected side

Left

Right

e. Dominant side

Left

Right

f. Stroke type

Ischeamic

Hemorrhagic



g. Type of residence

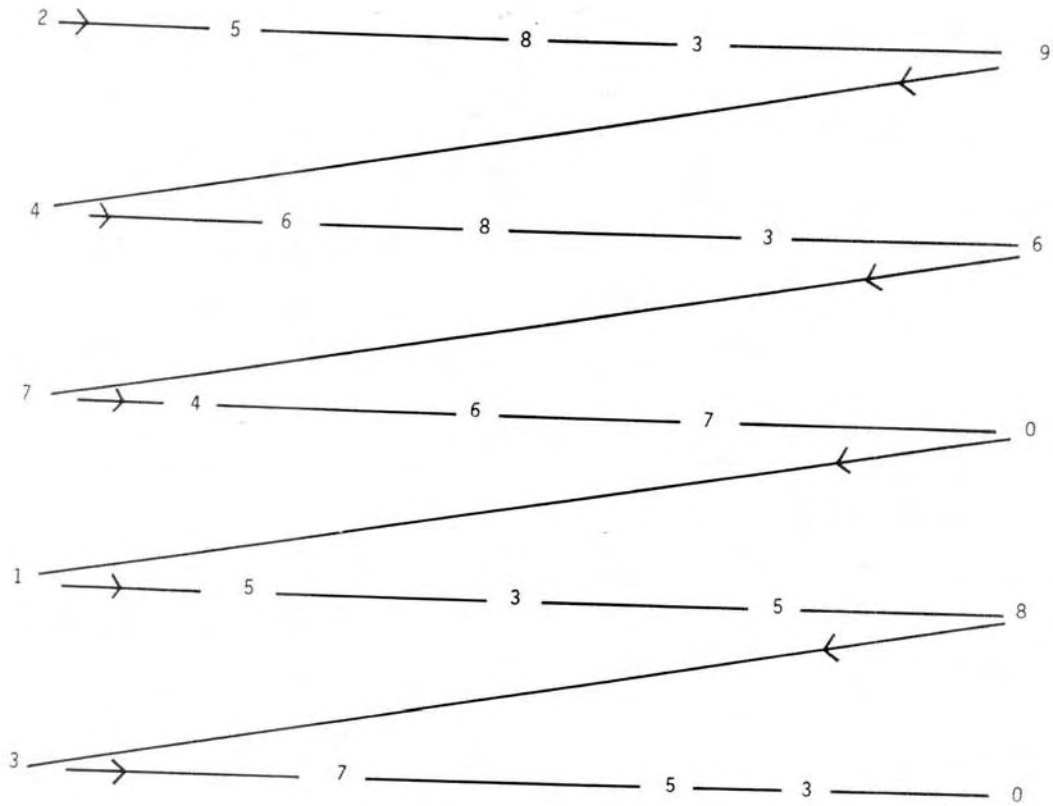
- Brick house
- Informal housing (“shack”)
- Retirement village: Room
- Retirement village: House

h. Level of education

- Primary school
- High School
- Tertiary education

i. Type of work

ADDENDUM 5: The King-Devick Test ©



DEMONSTRATION CARD





2 — 5 — 8 — 0 — 7
3 — 7 — 9 — 4 — 6
5 — 3 — 1 — 6 — 4
7 — 9 — 7 — 3 — 5
1 — 5 — 4 — 9 — 2
6 — 5 — 5 — 7 — 3
3 — 1 — 8 — 6 — 4
5 — 3 — 7 — 5 — 2

TEST I





3	7	5	9	0
2	5	7	4	6
1	4	7	6	3
7	9	3	9	0
4	5	2	1	7
5	3	7	4	8
7	4	6	5	2
9	0	2	3	6

TEST II



5 4 1 8 0
4 6 3 5 9
7 5 4 2 7
3 2 6 9 4
1 4 5 1 3
9 3 4 8 5
5 1 6 3 1
4 3 5 2 7

TEST III





NYSOA K-D TESTS

Sample Score Sheet

I
2-5-8-0-7
3-7-9-4-6
5-3-1-6-4
7-9-7-3-5
1-5-4-9-2
6-5-5-7-3
3-1-8-6-4
5-3-7-5-2

II
3-7-5-9-0
2-5-7-4-6
1-4-7-6-3
7-9-3-9-0
4-5-2-1-7
5-3-7-4-8
7-4-6-5-2
9-0-2-3-6

III
5-4-1-8-0
4-6-3-5-9
7-5-4-2-7
3-2-6-9-4
1-4-5-1-3
9-3-4-8-5
5-1-6-3-1
4-3-5-2-7





ADDENDUM 6: The Barthel Index

**THE
BARTHEL
INDEX**

Patient Name: _____

Rater Name: _____

Date: _____

Activity	Score
FEEDING 0 = unable 5 = needs help cutting, spreading butter, etc., or requires modified diet 10 = independent	_____
BATHING 0 = dependent 5 = independent (or in shower)	_____
GROOMING 0 = needs to help with personal care 5 = independent face/hair/teeth/shaving (implements provided)	_____
DRESSING 0 = dependent 5 = needs help but can do about half unaided 10 = independent (including buttons, zips, laces, etc.)	_____
BOWELS 0 = incontinent (or needs to be given enemas) 5 = occasional accident 10 = continent	_____
BLADDER 0 = incontinent, or catheterized and unable to manage alone 5 = occasional accident 10 = continent	_____
TOILET USE 0 = dependent 5 = needs some help, but can do something alone 10 = independent (on and off, dressing, wiping)	_____
TRANSFERS (BED TO CHAIR AND BACK) 0 = unable, no sitting balance 5 = major help (one or two people, physical), can sit 10 = minor help (verbal or physical) 15 = independent	_____
MOBILITY (ON LEVEL SURFACES) 0 = immobile or < 50 yards 5 = wheelchair independent, including corners, > 50 yards 10 = walks with help of one person (verbal or physical) > 50 yards 15 = independent (but may use any aid; for example, stick) > 50 yards	_____
STAIRS 0 = unable 5 = needs help (verbal, physical, carrying aid) 10 = independent	_____
TOTAL (0-100):	_____

Provided by the Internet Stroke Center — www.strokecenter.org

The Barthel ADL Index: Guidelines

1. The index should be used as a record of what a patient does, not as a record of what a patient could do.
2. The main aim is to establish degree of independence from any help, physical or verbal, however minor and for whatever reason.
3. The need for supervision renders the patient not independent.
4. A patient's performance should be established using the best available evidence. Asking the patient, friends/relatives and nurses are the usual sources, but direct observation and common sense are also important. However direct testing is not needed.
5. Usually the patient's performance over the preceding 24-48 hours is important, but occasionally longer periods will be relevant.
6. Middle categories imply that the patient supplies over 50 per cent of the effort.
7. Use of aids to be independent is allowed.

References

Mahoney FI, Barthel D. "Functional evaluation: the Barthel Index."
Maryland State Medical Journal 1965;14:56-61. Used with permission.

Loewen SC, Anderson BA. "Predictors of stroke outcome using objective measurement scales."
Stroke. 1990;21:78-81.

Gresham GE, Phillips TF, Labi ML. "ADL status in stroke: relative merits of three standard indexes."
Arch Phys Med Rehabil. 1980;61:355-358.

Collin C, Wade DT, Davies S, Horne V. "The Barthel ADL Index: a reliability study."
Int Disability Study. 1988;10:61-63.

Copyright Information

The Maryland State Medical Society holds the copyright for the Barthel Index. It may be used freely for non-commercial purposes with the following citation:

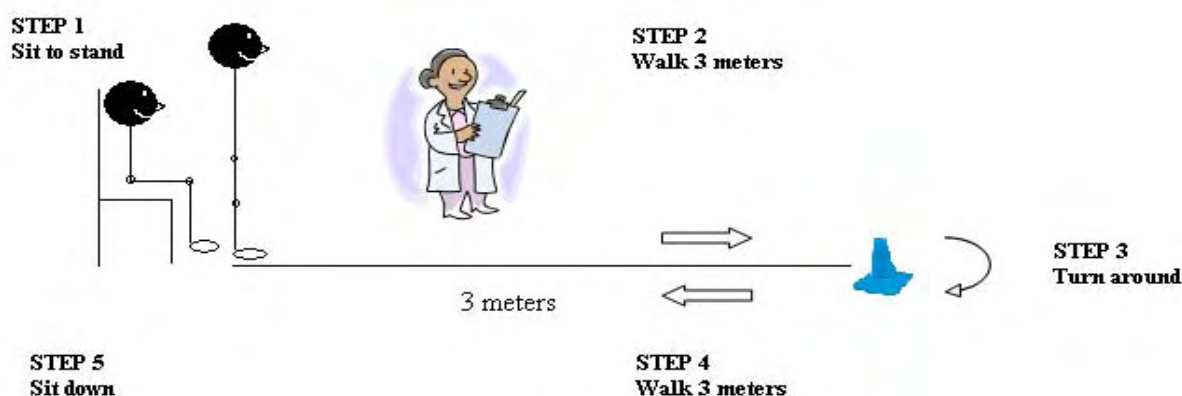
Mahoney FI, Barthel D. "Functional evaluation: the Barthel Index."
Maryland State Med Journal 1965;14:56-61. Used with permission.

Permission is required to modify the Barthel Index or to use it for commercial purposes.

ADDENDUM 7: The Timed Up and Go Test

The individual must stand up from the chair, walk a distance of 3 metres, turn around and walk back to the chair and sit down. The test is performed as safe and quickly as possible.

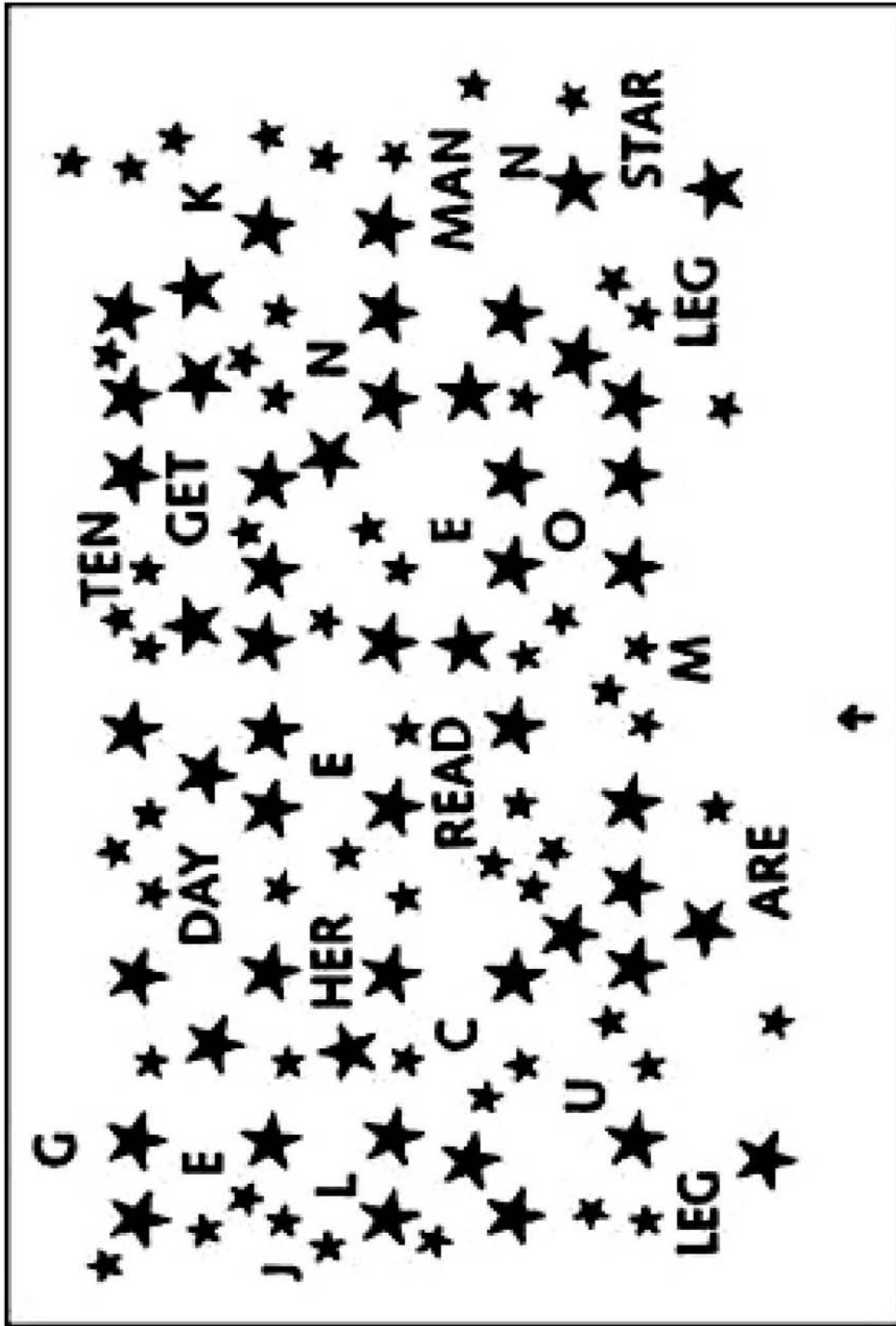
One practice trial is permitted to allow the participant to familiarise himself/herself with the task. Timing commences with the verbal instruction of “GO” and stops when the client return to his seated position. Participants wear their regular footwear and are permitted to use their walking aid. Use of a walking aid needs to be indicated on the data collection form. No physical assistance may be given.



Requirements:

- A standard chair with armrests (46cm seat height and 63 – 65 armrest height).
- Brightly coloured tape to mark off the 3 metre path.
- The 3 metre path should be free from obstruction.
- Stopwatch needs to be used to time the performance of the activity.

ADDENDUM 8: The Star Cancellation Test



Scoring

The maximum score = 54 points (56 small stars minus 2 used for demonstration).

Score < 44 = The presence of unilateral spatial neglect.

A Laterality Index / Star Ratio = The ratio of stars cancelled on the left of the page to the total number of stars cancelled.

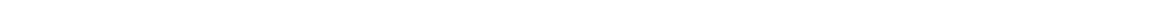
Score: 0 – 0.46 = Unilateral space neglect in the left hemi space.

Score: 0.54 – 1 = Unilateral space neglect in the right hemi space.

ADDENDUM 9: The Stroke Impact Scale Version 3.0

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.





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 <u>most affected</u> 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 <u>most affected</u> 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





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





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

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 limited in...	None of the time	A little of the time	Some of the time	Most of the time	All of the time
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





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

—

_____ 50

—

_____ 40

—

_____ 30

—

_____ 20

—

_____ 10

_____ 0 No Recovery



Item Clarifications

1. If patient says “I don’t have an affected side”, then instruct them to score using their perceived weaker side. If they still insist there is no affected, or weaker, side instruct them to score using their dominant side.
4. If patient says s/he does not do any or all of the items listed, code item(s) as *Extremely Difficult*.
 - (Item f) If patient does not call but is handed the phone this is OK.
 - (Item g) If patient cannot hold a phone book, if they can read it this is OK. This item addresses whether the patient is able to initiate a phone call, look up the number, and dial this number correctly.
5. If patient says s/he does not do any or all of the items listed, code item(s) as *Cannot do at all*.
 - (Item a) If person is on pureed food, even if they feel they could cut the food, code as *Cannot do at All (1/5/98)*
 - (Item c) Bathing oneself does not include getting into the tub.
 - (Item e) This question is associated with movement. Does the person have the physical ability to get to the bathroom quickly enough?
 - (Item f) Losing a little urine/dribbling is considered an accident.
 - If person has intermittent catheter and is having no leaking problems code them as per report. (1/5/98)
 - If person has an in-dwelling Foley catheter, code as *Cannot do at all. (1/5/98)*
 - (Item g) Constipation is not counted here, person has to have an accident.
 - (Item i) “Shopping” means any type of shopping and does not include driving.
6. If patient hasn’t done any of the items in the past two weeks code as *Cannot do at all*.
 - (Item h) If patient hasn’t “climbed several flights of stairs” in two weeks, they may be prompted by saying “have you gone up and down one flight of stairs a couple of times in a row.” If they still say they have not done it then they must be coded as *Cannot do at all*.
 - (Item i) If the patient wants to know what kind of car say “your car” or “the car you ride in most.”
7. If patient says “I don’t have an affected side”, then instruct them to score using their perceived weaker side. If they still insist there is no affected, or weaker, side instruct them to score using their dominant side.
 - (Item a) If the patient says s/he has not been to the grocery store say “have you carried anything heavy with that hand.”
 - (Item d) This item is to tie a shoelace/bow using both hands.
8. If patient does not do any of the specific items (and has never done), code interference as *None of the time*.



ADDENDUM 10: The walking ability questionnaire

The Walking Ability Questionnaire

NAME: _____ RLAH#: _____ AGE: _____ SEX: _____ ONSET: _____
 ADDRESS: _____ DIAGNOSIS: _____
 TELEPHONE: _____ DATE ADMINISTERED _____ HEIGHT_ WEIGHT _____

I. MOBILITY AIDS Wheelchair use <input type="checkbox"/> None <input type="checkbox"/> Sometimes <input type="checkbox"/> Always Orthoses Use AFO: R <input type="checkbox"/> L <input type="checkbox"/> Sometimes <input type="checkbox"/> Always <input type="checkbox"/>		Walking Aids Use <input type="checkbox"/> Straight cane <input type="checkbox"/> Quad cane <input type="checkbox"/> Walk cane <input type="checkbox"/> Forearm crutch <input type="checkbox"/> Walker (wheeled) <input type="checkbox"/> Walker (pick-up) <input type="checkbox"/> Other Sometimes <input type="checkbox"/> Always <input type="checkbox"/>		II. EVALUATION <table border="1"> <tr> <td></td> <td>Flexor Control</td> <td>Extensor Control</td> <td>Proprioception</td> </tr> <tr> <td>HIP</td> <td></td> <td></td> <td></td> </tr> <tr> <td>KNEE</td> <td></td> <td></td> <td></td> </tr> <tr> <td>ANKLE</td> <td></td> <td></td> <td></td> </tr> </table>				Flexor Control	Extensor Control	Proprioception	HIP				KNEE				ANKLE			
	Flexor Control	Extensor Control	Proprioception																			
HIP																						
KNEE																						
ANKLE																						

III. CURRENT CUSTOMARY MODE OF MOBILITY

AREA	N/A	W/C	WALK				Comments
			Unable	Assist	Standby	Indep	
HOME							
Bathroom							
Kitchen							
Bedroom							
Entering and exiting home							
Stairs with rails							
Stairs without rails							
Curbs							
Rough uneven ground, grass, carpet, etc.							
COMMUNITY							
Appointments (Dr, Dentist)							
Church							
Grocery Store							
Neighbourhood							
Shopping center							
Uncrowded times/areas							
Unlimited							
Recreation							
Visiting friend							
Restaurant							
Vacation/trips							
Other							
Unlimited							

- How often do you leave your home? _____
 Is this **MORE OFTEN**, **LESS OFTEN**, or the **SAME** as before your injury? (circle one)
- We are developing a research program to improve walking ability. If we feel that this program would be helpful to you, are you interested in coming in for an evaluation?
 Yes No
 Physiological Ambulator Limited Household Unlimited Household
 Most Limited Community Least Limited Community Community



Classification

Scoring

Independent

4

Supervised

3

Assisted

2

Wheelchair

1

Unable

0

Total score

76



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA



ADDENDUM 11: The Hospital Anxiety and Depression Scale

THE HOSPITAL ANXIETY AND DEPRESSION SCALE

Claimant's name: _____

Date: _____

Clinicians are aware that emotions play an important part in most illnesses. If your clinical knows about these feelings she or he will be able to help you more. This questionnaire is designed to help your clinician to know how you feel. Ignore the numbers printed on the left of the questionnaire. Read each item and **underline** the reply which comes closest to how you have been feeling in the past week. Don't take too long over your replies; your immediate reaction to each item will probably be the more accurate than a long thought-out response.

- A **I feel tense or 'wound' up:**
3 Most of the time
2 A lot of the time
1 From time to time, occasionally
0 Not at all
- D **I still enjoy the things I used to enjoy:**
0 Definitely as much
1 Not quite as much
2 Only a little
3 Hardly at all
- A **I get sort of frightened feeling as if something awful is about to happen:**
3 Very definitely and quite badly
2 Yes, but not too badly
1 A little, but it doesn't worry me
0 Not at all
- D **I can laugh and see the funny side of things:**
0 As much as I always could
1 Not quite so much now
2 Definitely not so much now
3 Not at all
- A **Worrying thoughts go through my mind:**
3 A great deal of the time
2 A lot of the time
1 From time to time but not too often
0 Only occasionally

(continued overleaf)



- D
3
2
1
0
- I feel cheerful:**
Not at all
Not often
Sometimes
Most if the time
- A
0
1
2
3
- I can sit at ease and feel relaxed:**
Definitely
Usually
Not often
Not at all
- D
3
2
1
0
- I feel as if I am slowed down:**
Nearly all the time
Very often
Sometimes
Not at all
- A
0
1
2
3
- I get a sort of frightened feeling like 'butterflies' in the stomach:**
Not at all
Occasionally
Quite often
Very often
- D
3
2
1
0
- I have lost interest in my appearance:**
Definitely
I don't take as much care as I should
I may not take quite as much care
I take just as much care as ever
- A
3
2
1
0
- I feel restless as if I have to be on the move:**
Very much indeed
Quite a lot
Not very much
Not at all

(continued overleaf)



- D
- 0
- 1
- 2
- 3
- A
- 3
- 2
- 1
- 0
- D
- 0
- 1
- 2
- 3
- I look forward with enjoyment to things:**
- As much as ever I did
- Rather less than I used to
- Definitely less than I used to
- Hardly at all
- I get sudden feelings of panic:**
- Very often indeed
- Quite often
- Not very often
- Not at all
- I can enjoy a good book or radio or TV programme:**
- Often
- Sometimes
- Not often
- Very seldom

Now check that you have answered all the questions

For office use only:

D:		Borderline 8 – 10
A:		Borderline 8 – 10

©Zigmond and Snaith, 1983.

ADDENDUM 12: The Stroke Activity Scale

ITEM 1: GETTING OUT OF BED ON THE UNAFFECTED SIDE

Score	Grade	Description
0	Unable	<ul style="list-style-type: none"> • Patient demonstrates no active movement; there is no attempt to perform activity.
1	Attempts with adaptive movement	<ul style="list-style-type: none"> • Initiates with head. • Pulls side of bed with intact arm. • Unable to/or may bring hemiplegic arm across body. • Some/or no movement of hemiplegic lower limb • Brings intact leg over edge of bed. • Some/or no trunk rotation. • Unable to sit up but may get to side lying position. • Over activity intact side. • Unsuccessful in completing activity- assistance 1 person required.
2	Achieves with adaptive movement	<ul style="list-style-type: none"> • Head initiates flexion. • Pulls side of bed with intact upper limb. • May leave or bring hemiplegic arm across body. • Flexion lower limbs/or may hook hemiplegic lower limb with intact lower limb. • Trunk rotation – but may leave hemiplegic arm behind, brings legs over side of bed and sits up at edge of bed. • Over activity of intact side persists. • Pushes into sitting and may overbalance. • Static sitting achieved but poor alignment and uneven weight bearing.
3	Achieves 'normal' 'Nearly normal'	<ul style="list-style-type: none"> • Patient flexes/rotates head to side and brings arm across body. • Trunk rotation with flexion of lower limbs. • Rolls onto one side with trunk elongation and lateral flexion of neck & trunk. • Brings legs over edge of bed, lower arm abducts to provide leverage up into sitting. • Acquisition of sitting at edge of bed in



		midline with symmetrical alignment and weight.
--	--	--

ITEM 2: STATIC AND DYNAMIC SITTING BALANCE

score	Grade	Description
0	Unable 'Static sitting'	<ul style="list-style-type: none"> • No active movement. • Unable to maintain seated position. • Requires assistance/support.
1	Attempts with adaptive movement 'Static sitting'	<ul style="list-style-type: none"> • Maintains static seated position but with asymmetrical alignment of head, shoulder girdle, trunk & pelvis. • Poor trunk control – lateral flexion and poor extension. • Uneven weight distribution buttocks. • Poor position of lower limbs with wide base of support (BOS), knees apart and poor foot placement. • Supervision required. • May hold bed with intact upper limb.
2	Achieves with adaptive movement 'Dynamic sitting'	<ul style="list-style-type: none"> • Achieves static sitting balance with good alignment. • Ability to extend trunk. • Poor position of lower limbs – poor foot placement and wide base support. • Reaches forward to touch stool-bias to one side with increased weight bearing intact side/or poor forward movement over BOS and asymmetry. • May leave hemiplegic arm by side, or grasp with intact hand. • Difficulty returning to upright sitting.
3	Achieves 'normal' 'Nearly normal' Dynamic sitting'	<ul style="list-style-type: none"> • Symmetrical alignment of head shoulders and hips. • In midline position. • Hip flexion with trunk extension. • Feet and knees close together. • Ability to move forward symmetrically over BOS to touch stool with both hands and returned symmetrical to seated position. • Even weight distribution. • Selective movement.



ITEM 3: SITTING TO STANDING

Score	Grade	Description
0	Unable	<ul style="list-style-type: none">• No active movement.• Patient demonstrates no attempt to perform activity.• Maintains seated position only.
1	Attempts with adaptive movement	<ul style="list-style-type: none">• Unable to/or attempts to move hips to edge of bed.• Forward flexion of head with prolonged flexion of trunk.• Unequal foot placement with hemiplegic foot forward/not on ground• Uneven weight bearing (WB) lower limbs with wide BOS.• Unable to transfer weight forward over feet and unable to lift buttocks off bed.• Pushes back/or to intact side with trunk extension. Over activity sound side pushes with intact upper limb.• Asymmetrical postural alignment.• Unable to stand without assistance.
2	Achieves with adaptive movement	<ul style="list-style-type: none">• Brings hips to edge of bed. Forward flexion of head, trunk flexes forward but leans to intact side.• Difficulty placing hemiplegic foot, uneven WB lower limbs with increased weight bearing through intact foot.• Difficulty transferring centre of gravity forward over feet.• Lifts buttocks off bed, pushing with intact upper limb.• Over activity of intact leg.• Tendency to flexed asymmetrical posture.• Unsteady in initial standing, steps to correct or may overbalance.• May or may not require supervision.
3	Achieves 'normal' 'Nearly normal'	<ul style="list-style-type: none">• Good alignment in sitting with even foot placement.• Forward inclination of trunk by flexion of hips with extension of neck and spine.• May use both hands-lifts buttocks of bed.



		<ul style="list-style-type: none">• Even WB lower limbs with extension of hips and knees for symmetrical standing alignment.• Selective movement-independent.
--	--	--

ITEM 4: STEPPING AND WALKING

Score	Grade	Description
0	Unable	<ul style="list-style-type: none"> • Maintains standing position with maximum assistance of 1-2 people. • Poor alignment. • Unable to walk. • Stands with hemiplegic leg in flexion, no weight bearing hemiplegic foot.
1	Attempts with adaptive movement	<ul style="list-style-type: none"> • Poor alignment in standing. • Requires assistance of 1-2/support. • Swings hemiplegic leg forward with excessive trunk side bending to opposite side and lateral pelvic shift. • Difficulty placing hemiplegic foot on ground, poor knee control, difficulty weight bearing hemiplegic leg. • Difficulty transferring body weight forward. • Over activity intact side. • Steps with intact leg but lose balance-unsafe/almost falls.
2	Achieves with adaptive movement	<ul style="list-style-type: none"> • Stance: narrow BOS difficulty lifting hemiplegic leg forward. • Heel contact achieved but poor knee control-unstable buckles/hyperextends. • Excessive lateral shift of pelvis to intact side. • Inability to weight- bear on hemiplegic leg. • Over activity intact side. • Swing: difficulty achieving ankle plantar flexion for push off. • Decreased ankle dorsiflexion, knee and hip flexion. • Inability to shorten lower limb for swing through. • Adaptive movement, lateral trunk bending to intact side/hip hitching or circumduction. • Poor control of hemiplegic limb at initial heel contact. • Uneven step length/over activity intact side. • Asymmetrical posture. • Use of aid/supervision.



3	Achieves 'Nearly normal'	<ul style="list-style-type: none">• Mobilizes as for 2 with aid unsupervised.
4	Achieves 'normally'	<ul style="list-style-type: none">• Stance: heel contact with control of ankle dorsiflexion at initial heel contact.• Hip extension and abduction, good foot placement and acceptance of BOS.• Transfer of bodyweight forward.• Symmetrical posture with more selectivity of movement.• Swing: hip extension with ankle plantar flexion for push off.• Foot clears ground.• Knee extension/ankle dorsiflexion on heel strike.• Transfer of body weight forward.• Walks independently with no aid.

ITEM 5: BRINING A GLASS TO THE MOUTH WITH ARM SUPPORTED ON A TABLE

Score	Grade	Description
0	Unable	<ul style="list-style-type: none"> No active movement. Patient demonstrates no attempt at activity. Sits with arm supported on table, elbows at 90°. Able to maintain starting position (Patient may use intact upper limb to lift hemiplegic arm).
1	Attempts with adaptive	<ul style="list-style-type: none"> Able to assume seated position. Very little activity at shoulder. Leans forward or to intact side. Elevates hemiplegic shoulder girdle or initiates flexion at shoulder but weak. Over activity intact side. Increased elevation of hemiplegic shoulder girdle and trunk side bending to intact side. Unable to complete task.
2	Achieves with adaptive movement	<ul style="list-style-type: none"> Forward flexion of shoulder with some over abduction. Increase elbow flexion/pronation. Increase flexion of wrist and fingers. Difficulty extending wrist, increase finger flexion and poor thumb opposition. Difficulty grasping glass and bringing it to the mouth. Asymmetrical trunk posture. Able to take a drink from glass by extending head to compensate. Achieves task but with decreased co-ordination/over activity.
3	Achieves 'normal' 'Nearly normal'	<ul style="list-style-type: none"> Reaches forward with shoulder flexion and some elevation. Wrist extension combined with radial deviation. Grasps glass with finger flexion and thumb opposition. Brings glass to mouth with supination and elbow flexion. Movement is smooth and co-ordinated.

Stroke Activity Scale – standardisation

Standardized patient instructions:

Item 1: Getting out of bed on the unaffected side – *‘Sit up/over the edge of the bed’*.

Item 2: Sitting balance – static and dynamic – *‘Sit on the edge of the bed/with your hands on your lap/and feet on the floor/reach forward to touch the stool with both hands/you may hold the weak arm/then sit back up straight’*.

Item 3: Sitting to standing – *‘Stand up’*.

Item 4: Stepping and walking – *‘I want to see you walking’*.

Item 5: Bringing a glass to the mouth with the arm supported on a table – *‘Pick up the glass/take a drink/then put it down again’*.

Stroke Activity Scale – Standardised starting positions:

Getting off bed on the unaffected side – supine lying on treatment plinth with one pillow under head.

Sitting balance – static and dynamic – height of treatment plinth adjusted so that lower limbs are at a 90-degree angle at the hip, knee and ankle. A wooden stool is positioned at 50cm from treatment plinth.

Sitting to standing – height of treatment plinth as for item 2.

Stepping and walking – from the initial standing position – there is a walkway of three metres.

Bringing a glass to the mouth with arm supported on a table – treatment plinth height as for item 2. The height of a treatment table is adjusted so that the patient’s elbows are supported. A drinking glass is positioned at 25cm from the patient at the edge of the table.



ADDENDUM 13: HART-chart

UNDERSTANDING AND MANAGING VISUAL DEFICITS - FIGURES

Hart Chart

	2	4	6	8	10				
O	F	N	P	V	D	T	C	H	E
Y	B	A	K	O	E	Z	L	R	X
E	T	H	W	F	M	B	K	A	P
B	X	F	R	T	O	S	M	V	C
R	A	D	V	S	X	P	E	T	O
M	P	O	E	A	N	C	B	K	F
C	R	G	D	B	K	E	P	M	A
F	X	P	S	M	A	R	D	L	G
T	M	U	A	X	S	O	G	P	B
H	O	S	N	C	T	K	U	Z	L

ADDENDUM 14: Results gathered at week eight (8), week twelve (12), week sixteen (16) and week twenty (20) of participants in Group 1 and Group 2

Table 1. Results of MMSE from week eight (8) to week twenty (20) of participants in Group 1 and Group 2

MMSE	[ALL]	Group 1	Group 2	p.overall
Week 8	26.0 [24.0; 28.0]	25.0 [23.8; 28.0]	26.0 [25.0; 27.5]	0.769
Week 12	25.0 [22.5; 28.0]	28.0 [25.0; 28.0]	24.0 [22.0; 25.0]	0.287
Week 16	27.5 [24.8; 28.0]	28.0 [27.0; 29.0]	27.0 [24.0; 28.0]	0.396
Week 20	27.0 [24.0; 30.0]	30.0 [25.0; 30.0]	27.0 [24.8; 28.5]	0.598

Table 2. The MMSE of participants in Group 1 and Group 2 from week eight (8) to week twenty (20)

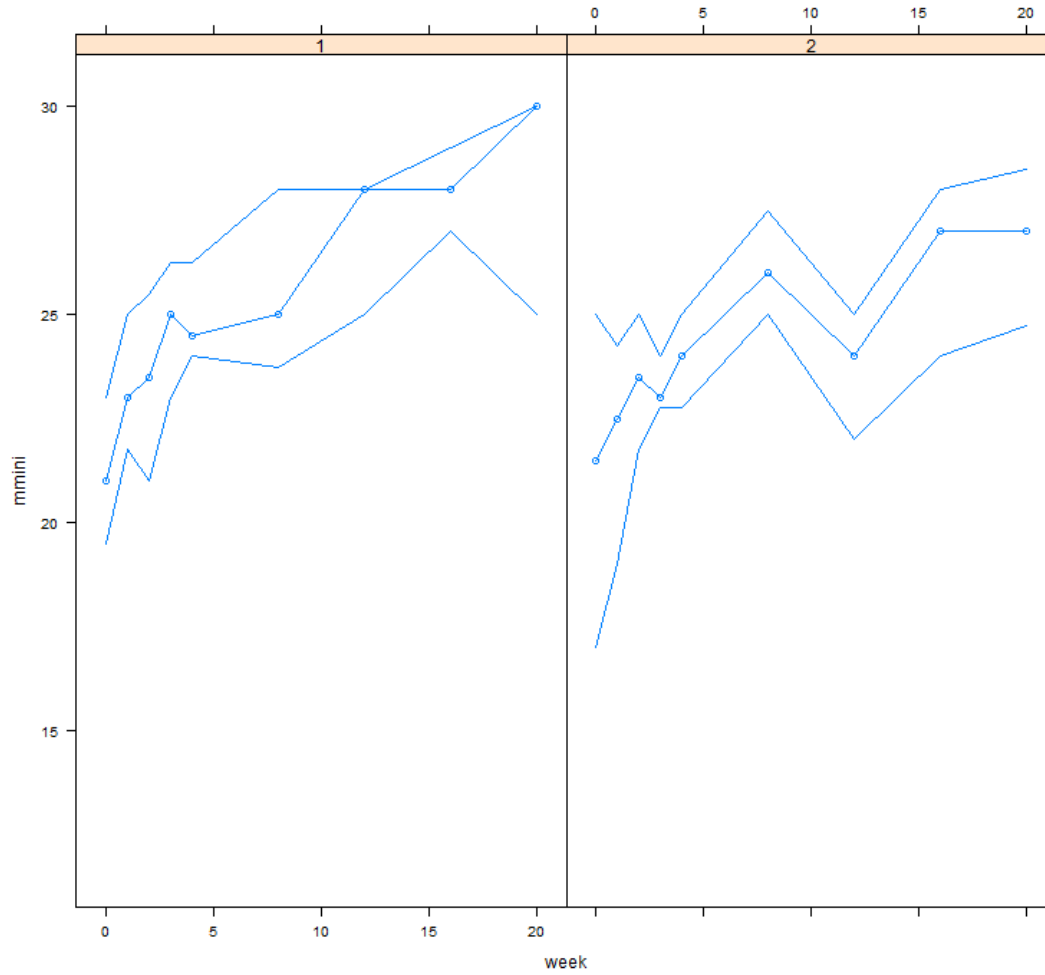
Mini-Mental State Examination (MMSE)	Baseline	Baseline	Week 4	Week 4	Week 8	Week 8
	Group 1 (n = 12)	Group 2 (n = 12)	Group 1 (n = 12)	Group 2 (n = 12)	Group 1 (n = 8)	Group 2 (n = 7)
Score	21.0	20.7	25.4	24.1	25.6	26.0
SD	3.95428	5.12274	2.02073	3.05877	2.44584	1.82574
	Week 12	Week 12	Week 16	Week 16	Week 20	Week 20
	Group 1 (n = 5)	Group 2 (n = 5)	Group 1 (n = 5)	Group 2 (n = 6)	Group 1 (n = 3)	Group 2 (n = 6)
Score	25.6	24.2	26.8	26.0	26.7	26.7
SD	4.50555	2.48998	3.96232	2.34521	5.77350	2.73252

Table 3. Interpretation of individual levels of cognitive impairment of participants from Group 1 and Group 2 at baseline and week twenty (20) (Folstein et al, 2001)

Score of MMSE	Level of impairment	Baseline Group 1 (n = 12)	Week 20 Group 1 (n = 3)	Baseline Group 2 (n = 12)	Week 20 Group 2 (n = 6)
≥ 27	No cognitive impairment	<i>n</i> = 1	<i>n</i> = 2	<i>n</i> = 1	<i>n</i> = 4
21 – 26	Mild cognitive impairment	<i>n</i> = 7	<i>n</i> = 0	<i>n</i> = 6	<i>n</i> = 2
11 – 20	Moderate cognitive impairment	<i>n</i> = 4	<i>n</i> = 1	<i>n</i> = 5	<i>n</i> = 0
≤ 10	Severe cognitive impairment	<i>n</i> = 0	<i>n</i> = 0	<i>n</i> = 0	<i>n</i> = 0
NO SCORE	DROP -OUT	<i>n</i> = 0	<i>n</i> = 9	<i>n</i> = 0	<i>n</i> = 6

Table 4. MMSE-scores at baseline level and week twenty (20) compared to a reference group based on age and education level of Group 1 and Group 2 (Crum et al, 1993)

	BASELINE MMSE score correlated with age and educational-level norm	BASELINE MMSE score did not correlate with age and educational-level norm	WEEK 4 MMSE score correlated with age and educational-level norm	WEEK 4 MMSE score does not correlate with age and educational-level norm	WEEK 20 MMSE score correlate with age and educational-level norm	WEEK 20 MMSE score does not correlate with age and educational-level norm
	Group 1 (n = 12)	Group 1 (n = 12)	Group 1 (n = 12)	Group 1 (n = 12)	Group 1 (n = 3)	Group 1 (n = 3)
Participants	<i>n = 2</i>	<i>n = 10</i>	<i>n = 8</i>	<i>n = 4</i>	<i>n = 2</i>	<i>n = 1</i>
	Group 2 (n = 12)	Group 2 (n = 12)	Group 2 (n = 12)	Group 2 (n = 12)	Group 2 (n = 6)	Group 2 (n = 6)
Participants	<i>n = 2</i>	<i>n = 10</i>	<i>n = 4</i>	<i>n = 8</i>	<i>n = 4</i>	<i>n = 2</i>



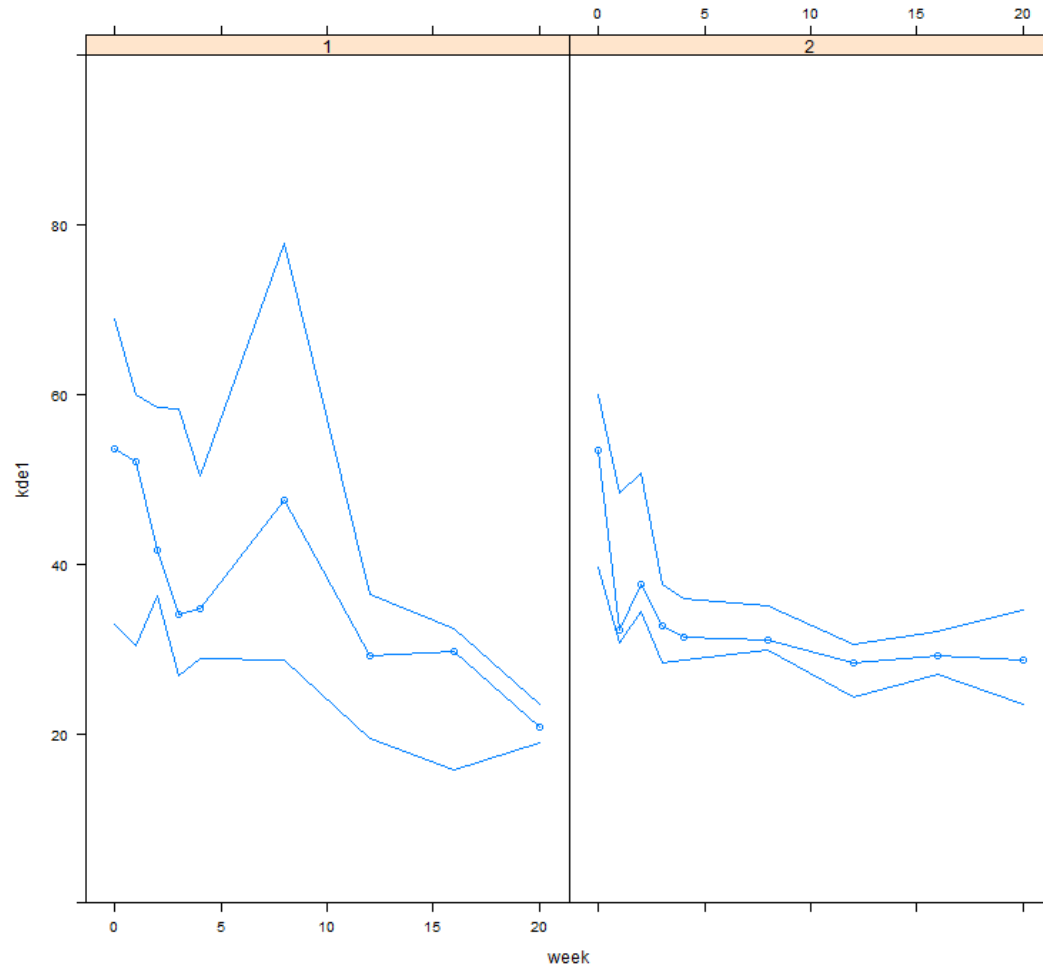
Graph 1. The plot of quartiles of the Mini-Mental State Examination of participants from Group 1 and Group 2 from week eight (8) to week twenty (20)

Table 5. Results of the King-Devick Subtest 1 from week eight (8) to week twenty (20) of participants in Group 1 and Group 2

King-Devick Subtest 1	[ALL]	Group 1	Group 2	p.overall
Week 8	32.1 [29.8; 47.5]	47.5 [28.6; 77.7]	31.0 [29.8; 35.1]	0.165
Week 12	28.8 [21.1; 34.9]	29.2 [19.4; 36.4]	28.4 [24.2; 30.5]	0.917
Week 16	29.3 [22.4; 32.7]	29.7 [15.6; 32.4]	29.2 [27.0; 32.0]	0.855
Week 20	26.0 [20.8; 31.1]	20.8 [18.9; 23.4]	28.7 [23.4; 34.6]	0.121

Table 6. Results of the time taken to complete the King-Devick Subtest 1 from baseline to week twenty (20) in participants in Group 1 and Group 2

The King-Devick Subtest 1	Baseline	Baseline	Week 4	Week 4	Week 8	Week 8
	Group 1 (n = 12)	Group 2 (n = 12)	Group 1 (n = 12)	Group 2 (n = 12)	Group 1 (n = 8)	Group 2 (n = 7)
Score	54.7	72.0	43.7	36.2	55.5	31.2
SD	20.94687	73.62671	25.81725	18.19574	35.36823	6.46367
	Week 12	Week 12	Week 16	Week 16	Week 20	Week 20
	Group 1 (n = 5)	Group 2 (n = 5)	Group 1 (n = 5)	Group 2 (n = 6)	Group 1 (n = 3)	Group 2 (n = 6)
Score	36.9	28.8	27.6	29.1	21.2	28.4
SD	25.58389	7.80356	12.34976	6.68986	4.54933	7.04975



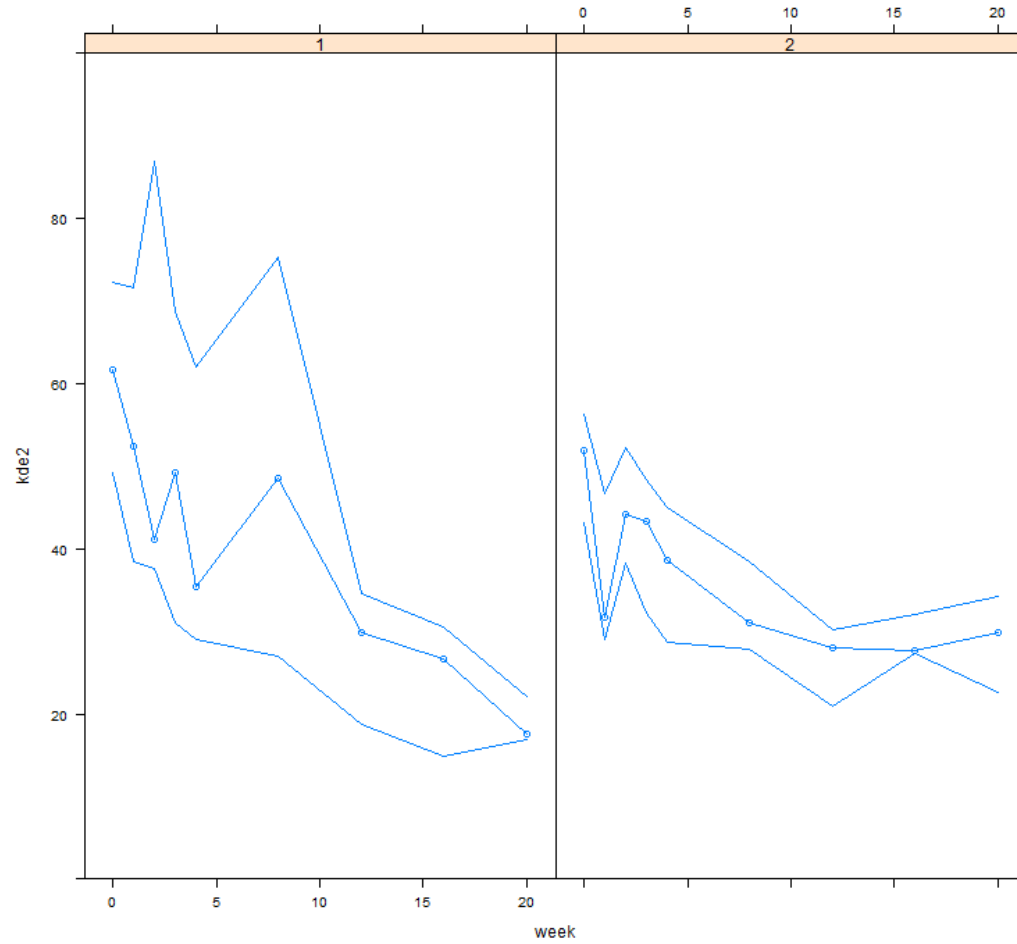
Graph 2. The plot of quartiles of the King-Devick Subtest 1 of participants from Group 1 and Group 2 from week eight (8) to week twenty (20)

Table 7. Results of the King-Devick Subtest 2 from week eight (8) to week twenty (20) of participants in Group 1 and Group 2

King-Devick Subtest 2	[ALL]	Group 1	Group 2	p.overall
Week 8	36.8 [27.9; 51.0]	48.5 [27.1; 75.3]	31.0 [27.9; 38.4]	0.354
Week 12	28.9 [19.6; 33.4]	29.9 [18.8; 34.5]	28.0 [21.0; 30.2]	0.917
Week 16	27.4 [22.7; 31.9]	26.6 [14.9; 30.5]	27.6 [27.3; 32.0]	0.465
Week 20	25.5 [19.9; 34.1]	17.6 [17.0; 22.1]	29.8 [22.6; 34.2]	0.121

Table 8. Results of the time taken to complete the King-Devick Subtest 2 (from baseline to week twenty (20) in participants in Group 1 and Group 2

The King-Devick Subtest 2	Baseline	Baseline	Week 4	Week 4	Week 8	Week 8
	Group 1 (n = 12)	Group 2 (n = 12)	Group 1 (n = 12)	Group 2 (n = 12)	Group 1 (n = 8)	Group 2 (n = 7)
Score	61.5	80.1	49.0	43.2	51.4	32.2
SD	17.79461	107.40739	31.17894	21.21469	29.73442	7.96464
	Week 12	Week 12	Week 16	Week 16	Week 20	Week 20
	Group 1 (n = 5)	Group 2 (n = 5)	Group 1 (n = 5)	Group 2 (n = 6)	Group 1 (n = 3)	Group 2 (n = 6)
Score	34.8	28.3	26.7	29.7	20.2	30.0
SD	22.52067	9.50015	13.14700	8.23726	5.59319	9.38452



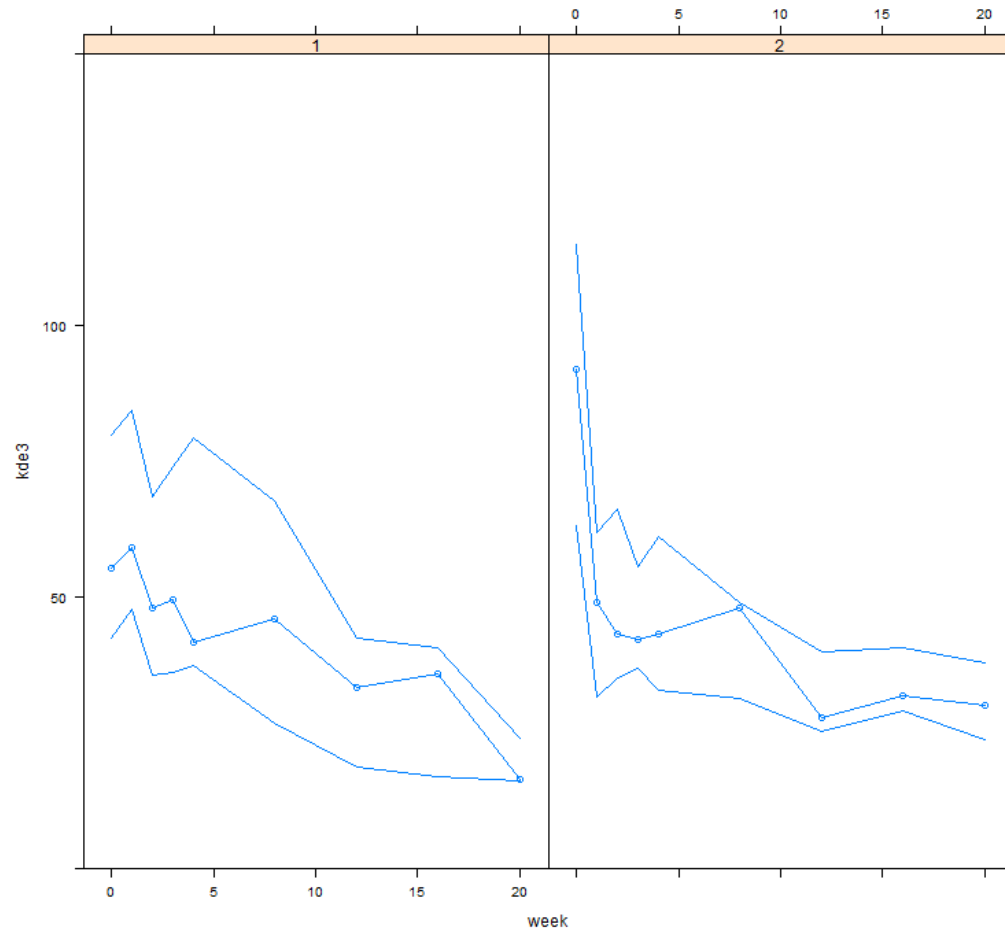
Graph 3. The plot of quartiles of the King-Devick Subtest 2 of participants from Group 1 and Group 2 from week eight (8) to week twenty (20)

Table 9. Results of the King-Devick Subtest 3 from week eight (8) to week twenty (20) of participants in Group 1 and Group 2

King-Devick Subtest 3	[ALL]	Group 1	Group 2	p.overall
Week 8	48.1 [26.9; 60.9]	46.1 [26.8; 67.8]	48.1 [31.4; 49.0]	0.817
Week 12	30.7 [21.8; 41.8]	33.5 [18.7; 42.4]	27.9 [25.2; 40.0]	0.917
Week 16	32.2 [24.0; 42.2]	35.9 [17.0; 40.8]	32.0 [29.2; 40.7]	0.715
Week 20	26.1 [18.2; 34.0]	16.5 [16.3; 24.1]	30.1 [23.8; 37.9]	0.121

Table 10. Results of the time taken to complete the King-Devick Subtest 3 from baseline to week twenty (20) in participants in Group 1 and Group 2

The King-Devick Subtest 3	Baseline	Baseline	Week 4	Week 4	Week 8	Week 8
	Group 1 (n = 12)	Group 2 (n = 12)	Group 1 (n = 12)	Group 2 (n = 12)	Group 1 (n = 8)	Group 2 (n = 7)
Score	65.5	131.0	59.3	54.5	48.7	42.6
SD	28.80263	156.72184	45.46268	32.63114	27.68208	17.80101
	Week 12	Week 12	Week 16	Week 16	Week 20	Week 20
	Group 1 (n = 5)	Group 2 (n = 5)	Group 1 (n = 5)	Group 2 (n = 6)	Group 1 (n = 3)	Group 2 (n = 6)
Score	39.4	34.8	30.9	37.2	21.5	32.3
SD	26.86877	15.98192	13.49240	16.82928	8.96750	12.76612



Graph 4. The plot of quartiles of the King-Devick Subtest 3 of participants from Group 1 and Group 2 from week eight (8) to week twenty (20)

Table 11. Results of the average number of errors in completion of the King-Devick Subtest 1 from baseline to week twenty (20) in participants in Group 1 and Group 2

Average number of errors in completion of the King-Devick Subtest 1	Baseline	Baseline	Week 4	Week 4	Week 8	Week 8
	Group 1 (n = 12)	Group 2 (n = 12)	Group 1 (n = 12)	Group 2 (n = 12)	Group 1 (n = 8)	Group 2 (n = 7)
Score	0.3	0.3	0.2	0.1	0.1	0.0
SD	0.30214	0.29473	0.24042	0.10388	0.17928	0.06856
	Week 12	Week 12	Week 16	Week 16	Week 20	Week 20
	Group 1 (n = 5)	Group 2 (n = 5)	Group 1 (n = 5)	Group 2 (n = 6)	Group 1 (n = 3)	Group 2 (n = 6)
Score	0.0	0.0	0.1	0.0	0.0	0.0
SD	0.06504	0.01342	0.14758	0.02582	0.00000	0.02160

Table 12. Results of the average number of errors made in completion of the King-Devick Subtest 2 from baseline to week twenty (20) in Group 1 and Group 2

Average number of errors in completion of the King-Devick Subtest 2	Baseline	Baseline	Week 4	Week 4	Week 8	Week 8
	Group 1 (n = 12)	Group 2 (n = 12)	Group 1 (n = 12)	Group 2 (n = 12)	Group 1 (n = 8)	Group 2 (n = 7)
Score	0.1	0.1	0.1	0.0	0.1	0.0
SD	0.11523	0.18729	0.20982	0.04479	0.11548	0.01890
	Week 12	Week 12	Week 16	Week 16	Week 20	Week 20
	Group 1 (n = 5)	Group 2 (n = 5)	Group 1 (n = 5)	Group 2 (n = 6)	Group 1 (n = 3)	Group 2 (n = 6)
Score	0.1	0.0	0.1	0.0	0.0	0.0
SD	0.12418	0.01342	0.10954	0.03251	0.00000	0.00000

Table 13. Results of the average number of errors made in completion of the King-Devick Subtest 3 from baseline to week twenty (20) in Group 1 and Group 2

Average number of errors in completion of the King-Devick Subtest 3	Baseline	Baseline	Week 4	Week 4	Week 8	Week 8
	Group 1 (n = 12)	Group 2 (n = 12)	Group 1 (n = 12)	Group 2 (n = 12)	Group 1 (n = 8)	Group 2 (n = 7)
Score	0.3	0.3	0.2	0.1	0.2	0.1
SD	0.30214	0.29473	0.24042	0.10388	0.19984	0.12830
	Week 12	Week 12	Week 16	Week 16	Week 20	Week 20
	Group 1 (n = 5)	Group 2 (n = 5)	Group 1 (n = 5)	Group 2 (n = 6)	Group 1 (n = 3)	Group 2 (n = 6)
Score	0.2	0.2	0.1	0.1	0.0	0.1
SD	0.28874	0.18281	0.09370	0.13706	0.01732	0.10539

Table 14. Results of the correct number of stars cancelled during the completion of the Star Cancellation Test from baseline to week twenty (20)

The Star Cancellation Test	Baseline	Baseline	Week 4	Week 4	Week 8	Week 8
	Group 1 (n = 12)	Group 2 (n = 12)	Group 1 (n = 12)	Group 2 (n = 12)	Group 1 (n = 8)	Group 2 (n = 7)
Score	31.8	42.1	46.7	40.3	47.1	46.9
SD	14.56100	13.22160	9.09878	10.55828	12.47211	6.51738
	Week 12	Week 12	Week 16	Week 16	Week 20	Week 20
	Group 1 (n = 5)	Group 2 (n = 5)	Group 1 (n = 5)	Group 2 (n = 6)	Group 1 (n = 3)	Group 2 (n = 6)
Score	48.6	44.4	46.6	45.5	52.7	45.0
SD	6.98570	5.94138	13.81304	6.53452	1.52753	4.42719

Table 15. Results of the time taken to complete the Star Cancellation Test from baseline to week twenty (20)

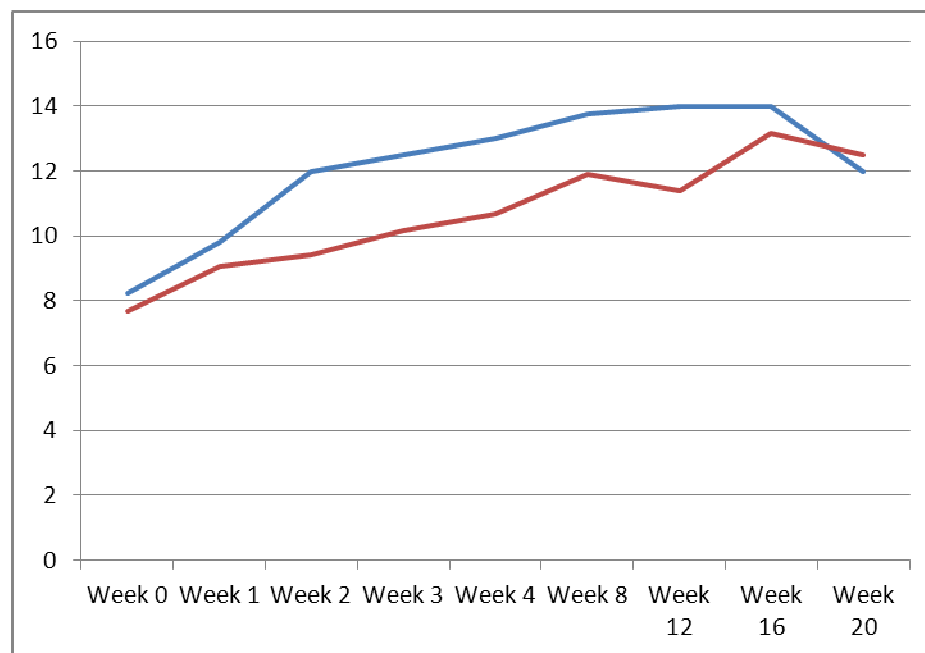
The time taken to complete the Star Cancellation Test	Baseline	Baseline	Week 4	Week 4	Week 8	Week 8
	Group 1 (n = 12)	Group 2 (n = 12)	Group 1 (n = 12)	Group 2 (n = 12)	Group 1 (n = 8)	Group 2 (n = 7)
Score	160.1	174.7	129.3	110.7	133.0	146.4
SD	125.70537	152.16529	87.72886	64.90929	101.15302	126.07061
	Week 12	Week 12	Week 16	Week 16	Week 20	Week 20
	Group 1 (n = 5)	Group 2 (n = 5)	Group 1 (n = 5)	Group 2 (n = 6)	Group 1 (n = 3)	Group 2 (n = 6)
Score	74.2	84.9	69.2	91.3	48.2	83.7
SD	45.53695	58.63820	34.42727	69.01976	24.95330	56.87049

Table 16. Results of anxiety subscale from baseline to week twenty (20) for Group 1 and Group 2

Anxiety subscale	Baseline	Baseline	Week 4	Week 4	Week 8	Week 8
	Group 1 (n = 12)	Group 2 (n = 12)	Group 1 (n = 12)	Group 2 (n = 12)	Group 1 (n = 8)	Group 2 (n = 7)
0 - 7	n = 4	n = 3	n = 8	n = 6	n = 6	n = 2
8 - 10	n = 3	n = 4	n = 1	n = 2	n = 1	n = 2
≥ 11	n = 5	n = 5	n = 3	n = 4	n = 1	n = 3
	Week 12	Week 12	Week 16	Week 16	Week 20	Week 20
	Group 1 (n = 5)	Group 2 (n = 5)	Group 1 (n = 5)	Group 2 (n = 6)	Group 1 (n = 3)	Group 2 (n = 6)
0 - 7	n = 4	n = 2	n = 3	n = 3	n = 2	n = 2
8 - 10	n = 0	n = 1	n = 2	n = 1	n = 0	n = 2
≥ 11	n = 1	n = 2	n = 0	n = 2	n = 1	n = 2

Table 17. Results of HADSD of the HADS from baseline to week twenty (20) for Group 1 and Group 2

Depression subscale	Baseline	Baseline	Week 4	Week 4	Week 8	Week 8
	Group 1 (n = 12)	Group 2 (n = 12)	Group 1 (n = 12)	Group 2 (n = 12)	Group 1 (n = 8)	Group 2 (n = 7)
0 - 7	n = 5	n = 4	n = 8	n = 2	n = 7	n = 1
8 - 10	n = 4	n = 5	n = 3	n = 3	n = 0	n = 2
≥ 11	n = 3	n = 3	n = 1	n = 7	n = 1	n = 4
	Week 12	Week 12	Week 16	Week 16	Week 20	Week 20
	Group 1 (n = 5)	Group 2 (n = 5)	Group 1 (n = 5)	Group 2 (n = 6)	Group 1 (n = 3)	Group 2 (n = 6)
0 - 7	n = 4	n = 1	n = 5	n = 0	n = 2	n = 0
8 - 10	n = 0	n = 3	n = 0	n = 2	n = 1	n = 2
≥ 11	n = 1	n = 1	n = 0	n = 4	n = 0	n = 4



- Group 1 (experimental group)
- Group 2 (control group)

Graph 5. Results of the Stroke Activity Scale (SAS) for Group 1 and Group 2 from baseline to week twenty (20)

Table 18. Results of the Barthel Index (BI) for Group 1 and Group 2 from baseline to week twenty (20)

Barthel Index	Baseline	Baseline	Week 4	Week 4	Week 8	Week 8
	Group 1 (n = 12)	Group 2 (n = 12)	Group 1 (n = 12)	Group 2 (n = 12)	Group 1 (n = 8)	Group 2 (n = 7)
Score	42.9	46.3	85.4	65.4	89.4	71.4
SD	18.39693	18.10638	16.43974	27.83542	16.56966	22.49339
	Week 12	Week 12	Week 16	Week 16	Week 20	Week 20
	Group 1 (n = 5)	Group 2 (n = 5)	Group 1 (n = 5)	Group 2 (n = 6)	Group 1 (n = 3)	Group 2 (n = 6)
Score	91.0	76.0	92.0	87.5	85.0	88.3
SD	17.46425	24.08319	17.88854	12.14496	25.98076	8.75595

Table 19. Results of the Timed Up and Go Test (TUG) for Group 1 and Group 2 from baseline to week twenty (20)

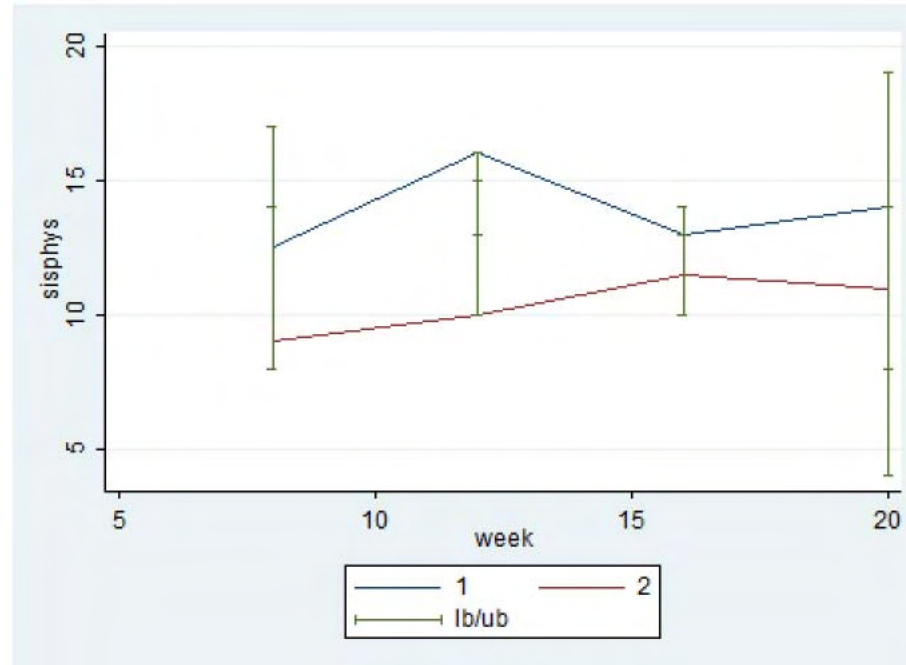
WEEK 20			
Time	Timed-up and-go Test	Group 1 (n = 3)	Group 2 (n = 6)
< 10 seconds	Completely independent	n = 1	n = 1
< 20 seconds	Independent for main transfers; May require assistance / supervision and/or an assistive device for safe ambulation	n = 1	n = 0
20 - 30 seconds	Dependent	n = 0	n = 1
> 30 seconds	Requires assistance	n = 1	n = 3
Unable to complete the test	Requires maximal assistance	n = 0	n = 1
≥ 14 seconds	High risk of falls	n = 1	n = 5
≤ 13 seconds	Low risk of falls	n = 2	n = 1

Table 20. The use of a walking aid by participants from Group 1 and Group 2 at week twenty (20)

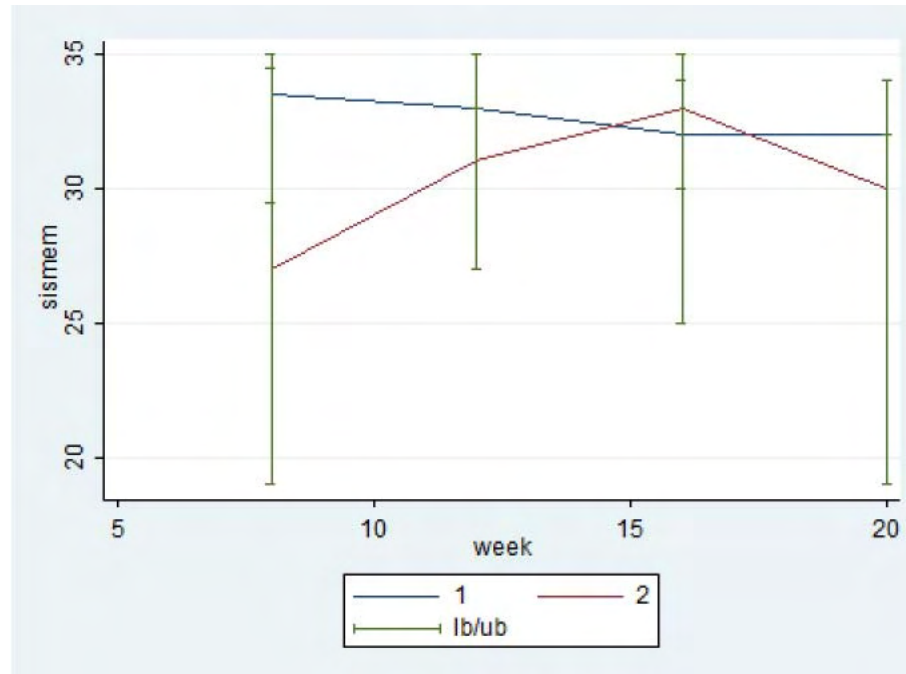
Walking aid	Week 20	Week 20
	Group 1 (<i>n</i> = 3)	Group 2 (<i>n</i> = 6)
No walking aid	<i>n</i> = 2	<i>n</i> = 3
Walking stick	<i>n</i> = 0	<i>n</i> = 0
Tripod	<i>n</i> = 0	<i>n</i> = 0
Quadropod	<i>n</i> = 1	<i>n</i> = 1
Elbow crutch	<i>n</i> = 0	<i>n</i> = 0
Rollator frame	<i>n</i> = 0	<i>n</i> = 0
Walking frame	<i>n</i> = 0	<i>n</i> = 1
Wheelchair / Other	<i>n</i> = 0	<i>n</i> = 1

Table 21. The walking aid used and assistance required by participants from Group 1 and Group 2 to complete the TUG at week twenty (20)

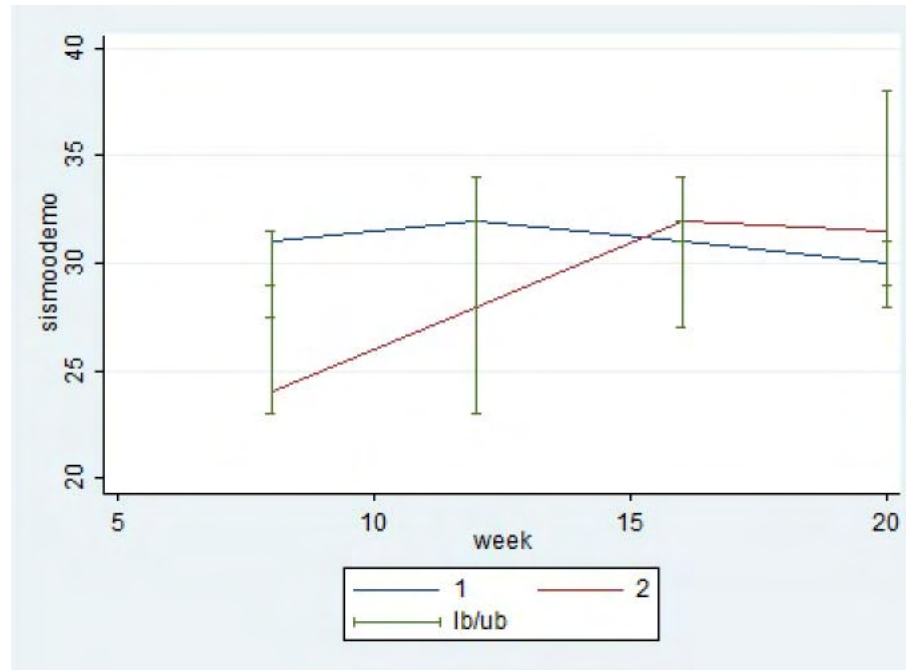
	Week 20	Week 20
Walking aid & Assistance required	Group 1 (n = 3)	Group 2 (n = 6)
No walking aid & independent (no assistance)	n = 2	n = 2
No walking aid & supervision of 1 person	n = 0	n = 1
No walking aid & moderate assistance of 1 person	n = 0	n = 0
No walking aid & moderate assistance of 2 persons	n = 0	n = 0
No walking aid & maximal assistance of 2 persons	n = 0	n = 0
Walking stick & independent (no assistance)	n = 0	n = 0
Tripod & independent (no assistance)	n = 0	n = 0
Tripod & minimal assistance of 1 person	n = 0	n = 0
Quadropod & independent (no assistance)	n = 0	n = 1
Quadropod & supervision of 1 person	n = 0	n = 0
Quadropod & minimal assistance of 1 person	n = 0	n = 0
Quadropod & moderate assistance of 1 person	n = 1	n = 0
Quadropod & maximal assistance of 1 person	n = 0	n = 0
Quadropod & maximal assistance of 2 persons	n = 0	n = 0
Elbow crutch & independent	n = 0	n = 0
Rollator frame	n = 0	n = 0
Walking frame & independent	n = 0	n = 1
Wheelchair / Other & Assistance of more than 2 persons (> 2 persons)	n = 0	n = 1



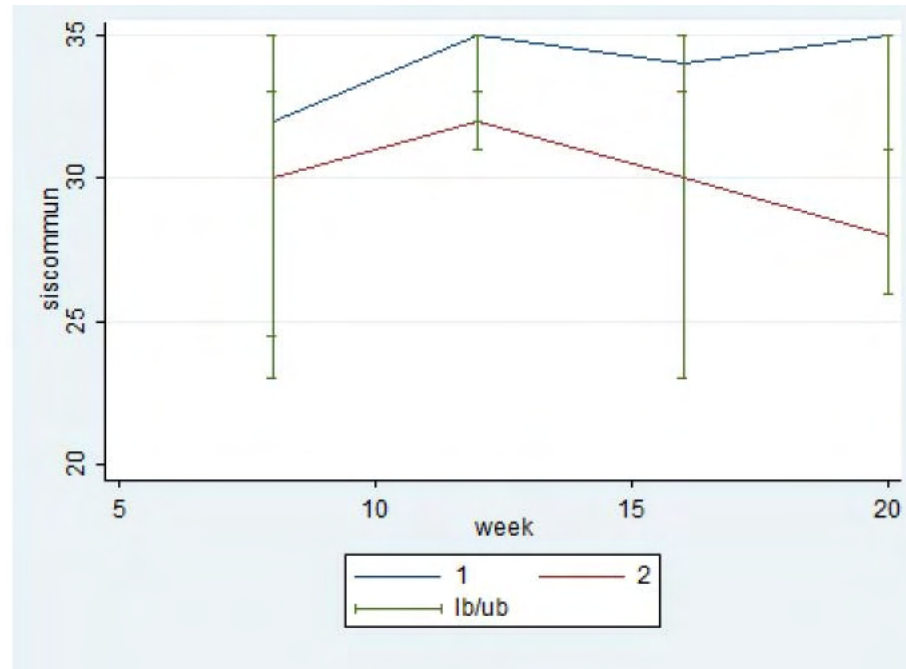
Graph 6. Results of self-reported physical strength (SIS) for Group 1 and Group 2 from week eight (8) until week twenty (20)



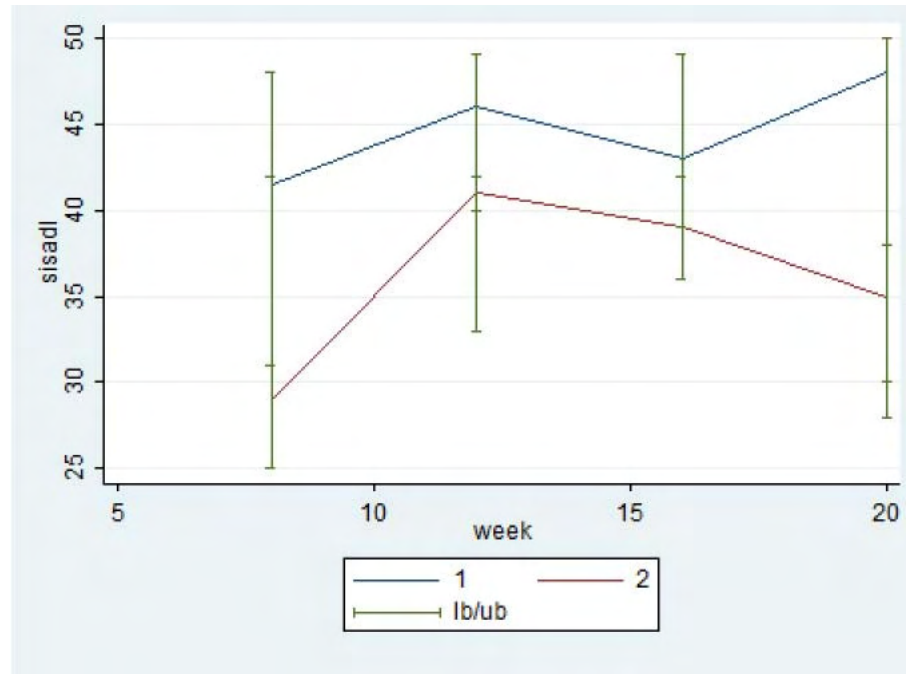
Graph 7. Results of self-reported memory and thinking impairment (SIS) for Group 1 and Group 2 from week eight (8) until week twenty (20)



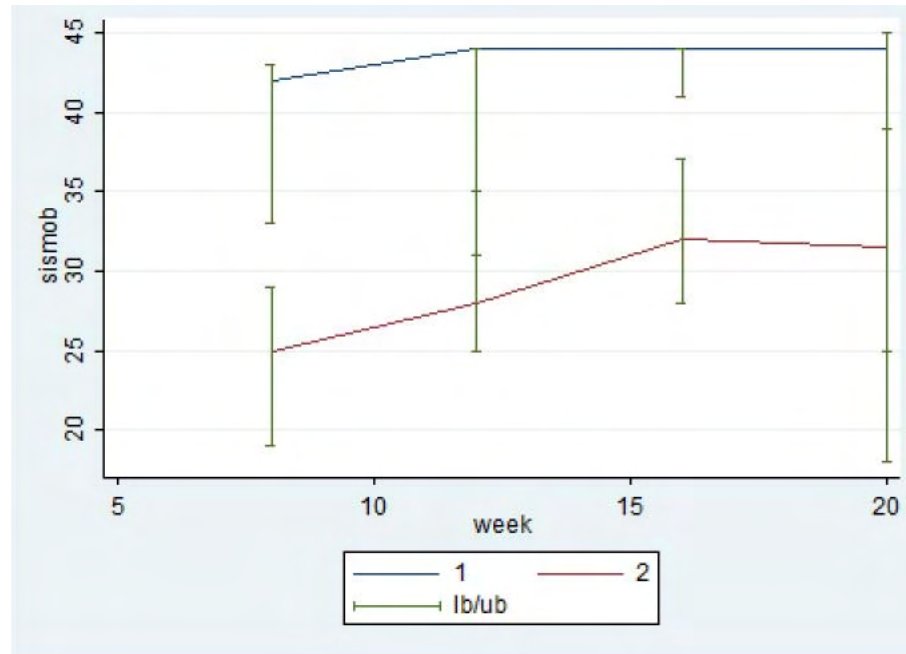
Graph 8. Results of self-reported changes in mood and ability to control emotions (SIS) in participants for Group 1 and Group 2 from week eight (8) until week twenty (20)



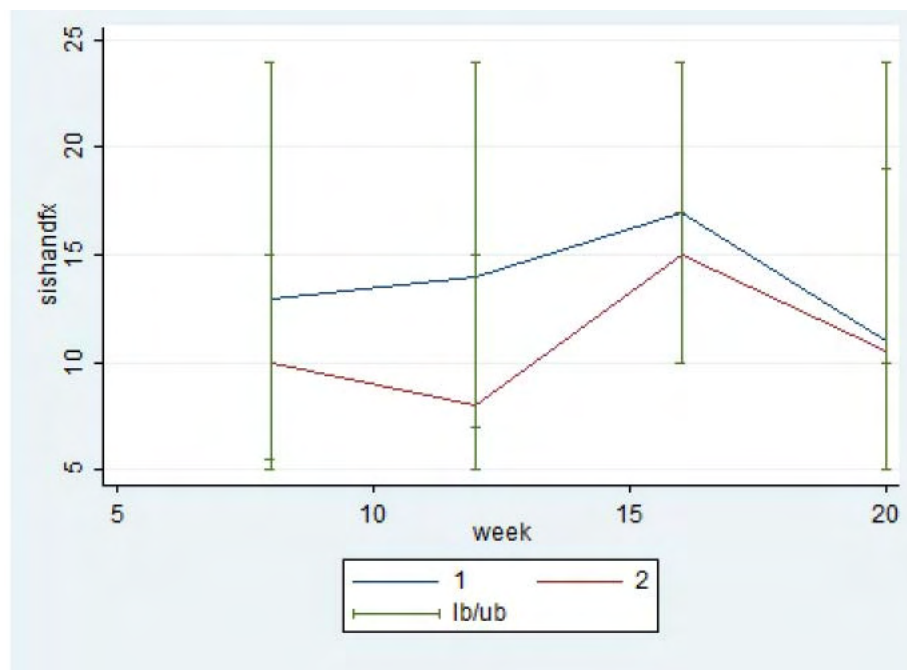
Graph 9. Results of self-reported changes in the ability to communicate and the ability to understand what participants read as well as hear in a conversation (SIS) from week eight (8) till week twenty (20)



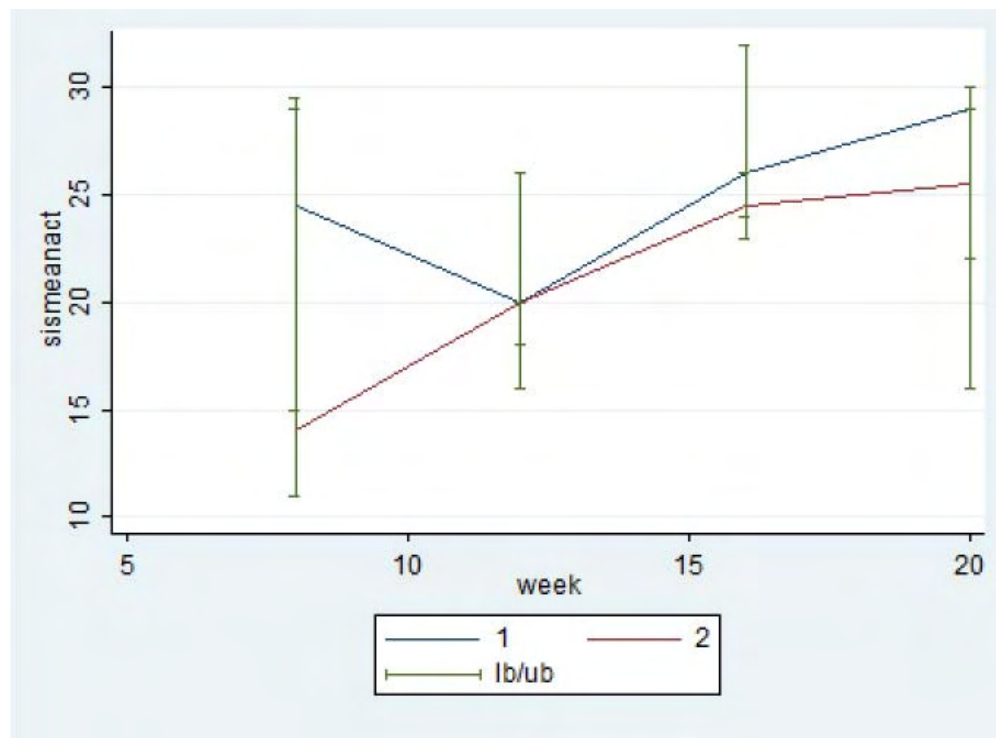
Graph 10. Results of self-reported difficulty experienced with performance of activities during a typical day (SIS) from week eight (8) till week twenty (20)



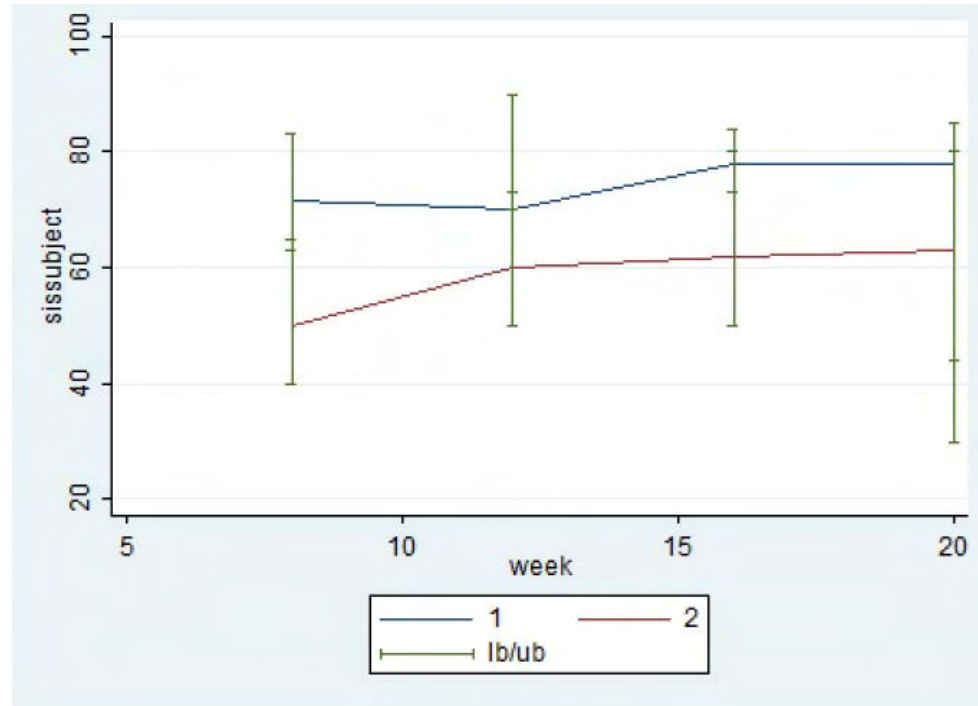
Graph 11. Results of self-reported difficulty experienced with mobility at home and in the community (SIS) from week eight (8) till week twenty (20)



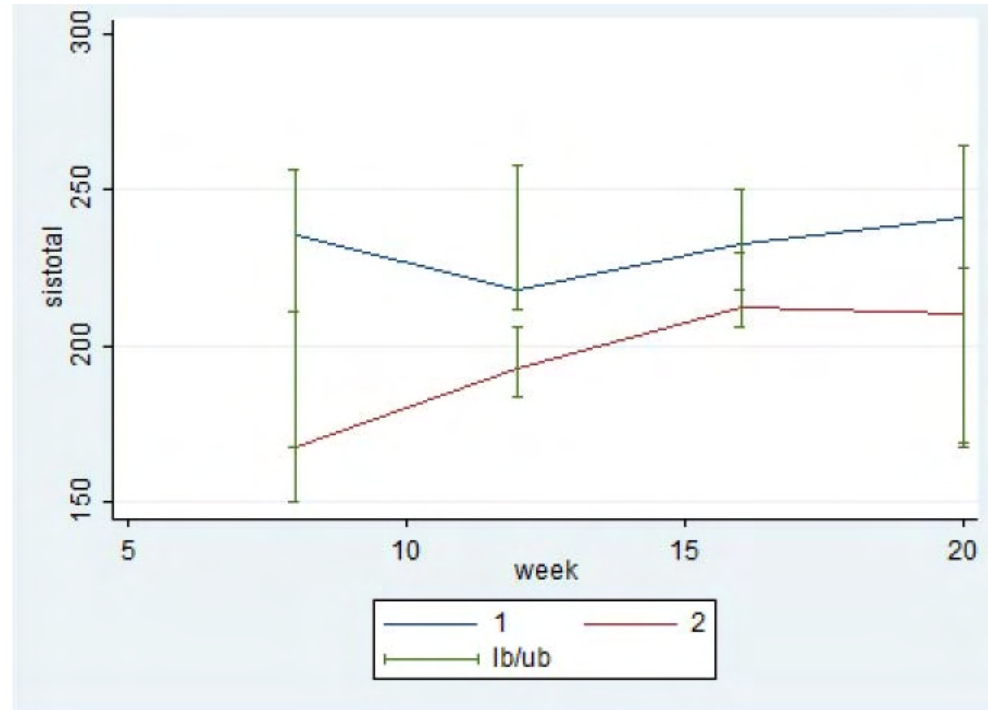
Graph 12. Results of self-reported difficulty experienced with the use of the hand that was most affected by the stroke (SIS) from week eight (8) till week twenty (20)



Graph 13. Results of self-reported ability to participate in meaningful activities (SIS) from week eight (8) till week twenty (20)



Graph 14. Results of self-reported subjective recovery (SIS) for Group 1 and Group 2 from week eight (8) till week twenty (20)



Graph 15. Results of the total score of the Stroke Impact Scale Version 3.0 (SIS) for Group 1 and Group 2 from week eight (8) till week twenty (20)

Table 22. Results for the walking ability questionnaire for Group 1 and Group 2 from week eight (8) till week twenty (20)

Score of Walking ability questionnaire	Group 1	Group 2	Group 1	Group 2
	Week 8 (n = 8)	Week 8 (n = 7)	Week 12 (n = 5)	Week 12 (n = 5)
0 – 19	n = 3	n = 2	n = 1	n = 1
20 – 39	n = 1	n = 3	n = 1	n = 0
40 – 59	n = 1	n = 1	n = 0	n = 3
60 – 76	n = 3	n = 1	n = 3	n = 1
Score of Walking ability questionnaire	Group 1	Group 2	Group 1	Group 2
	Week 16 (n = 5)	Week 16 (n = 6)	Week 20 (n = 3)	Week 20 (n = 6)
0 – 19	n = 1	n = 0	n = 1	n = 0
20 – 39	n = 0	n = 3	n = 0	n = 1
40 – 59	n = 0	n = 0	n = 0	n = 4
60 – 76	n = 4	n = 3	n = 2	n = 1