NHS

East of England Trauma Network

Rehabilitation Toolkit

November 2013

Welcome to the TEMPO trauma rehabilitation toolkit

The purpose of this toolkit is to provide a range of useful assessment tools and outcome measures for use with trauma patients in their rehabilitation phase. The toolkit will be added to over time as experience with the trauma population grows. The information available in the toolkit is not exhaustive but useful links and references have been supplied. One such resource is the Centre for Outcome Measurement in Brain Injury which can be found at the following web address: **www.tbims.org/combi/list.html**

It is quite possible that the major trauma centre (MTC) and individual trauma units (TUs) will already have differently formatted versions of these outcome measures already in use, in which case these compliment your existing documents.

If you have any suggestions regarding useful additions to the toolkit then please contact us.

Many thanks,

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Rehabilitation toolbox

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01 • Rancho Los Amigos scale

The Rancho Los Amigos scale was developed at the Rancho Los Amigos Hospital in California by the Head Injury Treatment team. This scale is useful for therapists and families to help understand the behaviour and progression of the head injury survivor as they go through rehabilitation. These levels are applicable in the first weeks or months following the injury and are not intended to predict improvement over the long term.

Progress is rapid at first. The patient will move between the levels quickly. However, as the months go by, progress will slow and at some point the patient may seem to plateau around level VI or VII. The level at which the patient plateaus cannot be predicted beforehand. Patients may also have characteristics of more than one level at a time.

Level	Outcome
I	**No response:** Does not respond to voices, sounds, light, or touch; appears in a deep sleep.
II	**Generalised response:** Limited, inconsistent, non-purposeful responses; first reaction may be to deep pain; may open eyes but will not seem to focus on anything in particular
III	**Localised response:** Inconsistent responses but purposeful in that reacts in a more specific manner to stimulus; may focus on a presented object; may follow simple commands.
IV	**Confused, agitated:** Heightened state of activity; confusion; unable to do self-care; unaware of present events. Reacts to own inner confusion, fear, disorientation; excitable behavior may be abusive or aggressive.
V	**Confused, inappropriate, non-agitated:** Appears alert; responds to commands; follows tasks for 2–3 minutes but easily distracted by environment; frustrated; verbally inappropriate; does not learn new information.
VI	**Confused appropriate:** Follows simple directions consistently; needs cueing; can relearn old skills; serious memory problems but improving; attention improving; self-care tasks performed without help; some awareness of self and others.
VII	**Automatic appropriate:** If physically able, can carry out routine activities but may have robot-like behavior, minimal confusion, shallow recall; poor insight into condition; initiates tasks but needs structure; poor judgement, problem-solving and planning skills; overall appears normal.
VIII	**Purposeful appropriate:** Alert, oriented; recalls and integrates past events; learns new activities and can continue without supervision; independent in home and living skills; capable of driving; defects in stress tolerance, judgment; abstract reasoning persist; many function at reduced levels in society.

For staff use only:
Hospital number:
Surname:
First names:
Date of birth:
NHS no: _ _ _ / _ _ _ / _ _ _ _
Use hospital identification label

02 • Rehabilitation Complexity Score (RCS) extended (trauma version)

Date of score: DD/MM/YYYY

For each subscale, circle highest level applicable

Medical needs

Describes the approximate level of medical environment required for medical/surgical/trauma management

M0	**No active medical intervention** (Could be managed by GP on basis of occasional visits)	**Tick medical interventions required**
M1	**Basic investigation / monitoring / treatment** (Requiring non-acute hospital care, could be delivered in a community hospital with day time medical cover)	☐ Specialist investigations – blood tests, imaging, etc ☐ On-site co-ordinated specialist opinion / intervention
M2	**Specialist medical / psychiatric intervention – for diagnosis or management/procedures** (Requiring in-patient hospital care in (DGH or specialist)	☐ Access to specialist medical equipment for assessment / monitoring, etc
M3	**Potentially unstable medical /psychiatric condition** (Requiring 24 hr availability of on-site acute medical / psychiatric cover)	**Type of medical / surgical intervention required** ☐ Medical ☐ Surgical
M4	**Acute medical / surgical problem** (Requiring emergency medical / surgical out of hours care – but can be managed in DGH setting, or in post-acute stepdown rehab setting)	☐ Trauma ☐ Psychiatric ☐ Other
M5	**Acute trauma needs – primary needs are medical/surgical** (Requiring acute co-ordinated trauma care, eg. in trauma unit)	☐ Orthopaedic / trauma ☐ Neurology / neurosurgery ☐ Vascular ☐ Abdominal / cardiothoracic ☐ Plastics / burns
M6	**Hyper-acute trauma needs – extended range trauma care** (Requiring hyper-acute or complex co-ordinated trauma care only available in Major Trauma Centre)	☐ ENT / max-fax ☐ Urology ☐ Rehabilitation medicine ☐ Other

Basic care and support needs

Describes the approximate level of intervention required for basic self-care or level of risk
(For all centres: score both care and risk and use highest score)

	Care: standard rehab needs	Risk: cognitive behavioural needs
C0	Largely **independent** in basic care activities	**No risk**
C1	Requires **help from 1 person** for most basic care needs	**Low risk** – standard observations only But **requires escorting** outside the unit
C2	Requires **help from 2 people** for most basic care needs	**Medium risk – above** standard observations OR **managed under MHA section**
C3	Requires **help from ≥3 people** for basic care needs	**High risk – above** standard observations AND **managed under MHA section**
C4	Requires constant **1:1 supervision** – for safety or behavioural management	**Very high risk** Requires **constant 1:1 supervision**

Skilled nursing needs

Describes the level of intervention required from qualified or skilled rehab nursing staff

Code	Description
N0	No needs for skilled nursing
N1	Requires intervention from a **qualified nurse** (eg. for monitoring, medication, dressings etc.)
N2	Requires intervention from **trained rehabilitation nursing staff** and/or **mental health nurses**
N3	Requires **highly specialist nursing care** (eg. for tracheostomy, behavioural management etc.)
N4	Requires **high dependency specialist nursing** (eg. medically unstable, very frequent monitoring/ intervention by a qualified nurse – hourly or more often)

Tick nursing disciplines required

- ☐ General registered nursing
- ☐ ITU nurse
- ☐ Specialist trauma nurse (eg. orthopaedic, amputee etc)
- ☐ Rehab-trained nurses
- ☐ Mental Health (RMN)
- ☐ Other

Therapy needs

Describes the approximate level of input that is required from **therapy** disciplines

Therapy disciplines: state number of different therapy disciplines required to be **actively** involved in **treatment**

Code	Number of disciplines
TD0	0
TD1	**1** discipline only
TD2	**2–3** disciplines
TD3	**4–5** disciplines
TD4	≥**6** disciplines

Tick therapy disciplines required

- ☐ Physio
- ☐ O / T
- ☐ SLT
- ☐ Dietetics
- ☐ Social work
- ☐ Psychology
- ☐ Councelling
- ☐ Orthotics
- ☐ Prosthetics
- ☐ Rehab engineer
- ☐ Music / art therapy
- ☐ Play therapy / school
- ☐ DEA / Jobcentre Plus
- ☐ Recreational therapy
- ☐ Other:

Therapy intensity: state overall intensity of trained therapy intervention required from team as a whole

Code	Description
TI0	**No therapy intervention** (or <1 hour total / week – rehab needs met by nursing / care staff or self-exercise programme)
TI1	Low level – **less than daily** (eg. assessment / review / maintenance / supervision) OR **group therapy only**
TI2	Moderate – **daily intervention – individual sessions with one person** to treat for most sessions OR **very intensive group programme** of ≥6 hours / day
TI3	High level – **daily intervention with therapist PLUS assistant and / or additional group sessions**
TI4	Very high level – **very intensive** (eg. 2 trained therapists to treat, or total 1:1 therapy >30 hrs / week)

Total T score (TD + TI):

Equipment needs

Describes the requirements for personal equipment

Code	Description
E0	**No needs** for special equipment
E1	Requires **basic special equipment**
E2	Requires **highly specialist equipment** (eg. electronic assistive technology or highly customised equipment)
E3	Requires **extremely specialist equipment** (ie. really fancy hi-tech trauma equipment only available in MTC!)

Basic special equipment

- ☐ Wheelchair / seating
- ☐ Pressure care
- ☐ Standing frame
- ☐ Off-shelf orthotic
- ☐ Walking aid
- ☐ Other:

Highly specialist equipment

- ☐ Environmental control
- ☐ Communication aid
- ☐ Customised seating
- ☐ Customised standing aid
- ☐ Customised orthotic / brace
- ☐ Assisted ventilation
- ☐ Other:

Total score summary	Needs scores	Totals		Currently gets	Reason for unmet need (eg. Not available (NA), declined (D), or Other)
Medical / Surgical / Trauma / Psychiatric treatment	M:	Medical:	/ 6	M:	☐ NA ☐ D ☐ Other:
Basic care and support (Includes risk management)	C: or R:	Care /risk	/ 4	C: or R:	☐ NA ☐ D ☐ Other:
Skilled nursing care	N:	Nursing	/ 4	N:	☐ NA ☐ D ☐ Other:
Therapy	TD:			TD:	☐ NA ☐ D ☐ Other:
	TI:	Therapy	/ 8	TI:	☐ NA ☐ D ☐ Other:
Specialist equipment	E:	Equipment	/ 3	E:	☐ NA ☐ D ☐ Other:
		Summed RCS	/ 25	Gets / 25	

02

03 • Glasgow Outcome Scale

The Glasgow Outcome Scale (GOS) is a global scale for functional outcome that rates patient status into one of five categories: Dead, Vegetative State, Severe Disability, Moderate Disability or Good Recovery. The Extended GOS (GOSE) provides more detailed categorisation into eight categories by subdividing the categories of severe disability, moderate disability and good recovery into a lower and upper category: Table 1: Extended Glasgow Outcome Scale (GOSE).

1	Death	D
2	Vegetative state	VS
3	Lower severe disability	SD -
4	Upper severe disability	SD +
5	Lower moderate disability	MD -
6	Upper moderate disability	MD +
7	Lower good recovery	GR -
8	Upper good recovery	GR +

Use of the structured interview is recommended to facilitate consistency in ratings.

Recommended time for assessment:			
	Basic	Intermediate	Advanced
3 months outcome		X	X
6 months outcome	X	X	X
12 months outcome			X

References

Jennett B, Bond M: *Assessment of outcome after severe brain damage.* Lancet 1:480–484, 1975.

Teasdale GM, Pettigrew LE, Wilson JT, Murray G, Jennett B. *Analyzing outcome of treatment of severe head injury: A review and update on advancing the use of the Glasgow Outcome Scale.* Journal of Neurotrauma 1998;15:587-597.

Wilson JTL, Pettigrew LEL, Teasdale GM. *Structured interviews for the Glasgow Outcome Scale and the Extended Glasgow Outcome Scale: Guidelines for Their Use.* J Neurotrauma 15(8): 573-85. 1997.

Wilson JT, Slieker FJ, Legrand V, Murray G, Stocchetti N, Maas AI. *Observer variation in the assessment of outcome in traumatic brain injury: experience from a multicenter, international randomized clinical trial.* Neurosurgery. Jul;61(1):123-8; discussion 128-9. 2007.

Respondent: ☐ 0 = Patient alone 1 = Relative / friend / caretaker alone 2 = Patient plus relative / friend / caretaker

Question	Yes	No
Consciousness:		
1. Is the head-injured person able to obey simple commands or say any words? Note: anyone who shows the ability to obey even simple commands or utter any word or communicate specifically in any other way is no longer considered to be in vegetative state. Eye movements are not reliable evidence of meaningful responsiveness. Corroborate with nursing staff and / or other caretakers. Confirmation of VS requires full assessment.	Yes ☐	No ☐ (VS)
Independence at home:		
2a. Is the assistance of another person at home essential every day for some activities of daily living? Note: for a NO answer they should be able to look after themselves at home for 24 hours if necessary, though they need not actually look after themselves. Independence includes the ability to plan for and carry out the following activities: getting washed, putting on clean clothes without prompting, preparing food for themselves, dealing with callers and handling minor domestic crises. The person should be able to carry out activities without needing prompting or reminding and should be capable of being left alone overnight.	Yes ☐	No ☐ (VS) **If no, go to 3**
2b. Do they need frequent help of someone to be around at home most of the time? Note: for a NO answer they should be able to look after themselves at home up to eight hours during the day if necessary, though they need not actually look after themselves	Yes ☐ (lower SD)	No ☐ (upper SD)
2c. Was the patient independent at home before the injury?	Yes ☐	No ☐
Independence outside home:		
3a. Are they able to shop without assistance? Note: this includes being able to plan what to buy, take care of money themselves and behave appropriately in public. They need not normally shop, but must be able to do so.	Yes ☐	No ☐ (Upper SD)
3b. Were they able to shop without assistance before?	Yes ☐	No ☐
4a. Are they able to travel locally without assistance? Note: they may drive or use public transport to get around. Ability to use a taxi is sufficient, provided the person can phone for it themselves and instruct the driver.	Yes ☐	No ☐ (Upper SD)
4b. Were they able to travel locally without assistance before the injury?	Yes ☐	No ☐
Work:		
5a. Are they currently able to work (or look after others at home) to their previous capacity?	Yes ☐ **If yes, go to 6**	No ☐
5b. How restricted are they?	a. Reduced work capacity? b. Able to work only in a sheltered workshop or non-competitive job or currently unable to work?	☐ (Upper MD) ☐ (Lower MD)
5c. Does the level of restriction represent a change in respect to the pre-trauma situation?	Yes ☐	No ☐

03

Social and leisure activities:		
6a. Are they able to resume regular social and leisure activities outside home? Note: they need not have resumed all their previous leisure activities, but should not be prevented by physical or mental impairment. If they have stopped the majority of activities because of loss of interest or motivation, then this is also considered a disability.	Yes ☐ **If yes, go to 7**	No ☐
6b. What is the extent of restriction on their social and leisure activities?	a. Occasional – less than weekly	☐ (Lower GR)
	b. Frequent – once a week or more, but not tolerable	☐ (Upper MD)
	c. Constant – daily and intolerable	☐ (Lower MD)
6c. Does the extent of restriction in regular social and leisure activities outside home represent a change in respect or pre-trauma	Yes ☐	No ☐
Family and friendships:		
7a. Has there been family or friendship disruption due to psychological problems?? Note: typical post-traumatic personality changes are: quick temper, irritability, anxiety, insensitivity to others, mood swings, depression and unreasonable or childish behaviour.	Yes ☐	No ☐ **If no, go to 8**
7b. What has been the extent of disruption or strain?	a. Occasional – less than weekly	☐ (Lower GR)
	b. Frequent – once a week or more, but not tolerable	☐ (Upper MD)
	c. Constant – daily and intolerable	☐ (Lower MD)
7c. Does the level of disruption or strain represent a change in respect to pre-trauma situation? Note: if there were some problems before injury, but these have become markedly worse since the injury then answer yes to question	Yes ☐	No ☐
Return to normal life:		
8a. Are there any other current problems relating to the injury which affect daily life? Note: other typical problems reported after head injury: headaches, dizziness, sensitivity to noise or light, slowness, memory failures and concentration problems.	Yes ☐ (Lower GR)	No ☐ (Upper GR)
8b. If similar problems were present before the injury, have these become markedly worse?	Yes ☐	No ☐
9. What is the most important factor in outcome? Note: extended GOS grades are shown beside responses on the CRF. The overall rating is based on the lowest outcome category indicated. Areas in which there has been no change with respect to the pre-trauma situation are ignored when the overall rating is made.	a. Effects of head injury	☐
	b. Effects of illness or injury to another part of the body	☐
	c. A mixture of these	☐

03

03.i • Glasgow Coma Scale (GCS)

Adult

Add the scores for the best response in each category to achieve the total score.

Test	Score	Patient's response
Eye opening		
Spontaneous	4	Opens eyes spontaneously
To speech	3	Opens eyes to verbal command
To pain	2	Opens eyes to painful stimulus
None	1	Doesn't open eyes in response to stimulus
Motor response		
Obeys	6	Reacts to verbal command
Localises	5	Attempts to remove source of pain
Withdraws	4	Flexes and withdraws from painful stimulus
Abnormal flexion	3	Flexes, but does not localise pain
Abnormal extension	2	Extends limbs
None	1	No response; just lies flaccid
Verbal response		
Oriented	5	Is oriented and converses
Confused	4	Is disoriented and confused
Inappropriate words	3	Replies randomly with incorrect words
Incomprehensible	2	Incomprehensible sounds
None	1	No response
Total score		

Adapted from: The Joint Royal Colleges Ambulance Service Liaison Committee (JRCALC) (October 2006)

03.ii • Glasgow Coma Scale (GCS)

Child

Modification of Glasgow Coma Scale for children under 4 years old

Test	Score	Patient's response
Eye opening		*As per adult scale*
Spontaneous	4	Opens eyes spontaneously
To speech	3	Opens eyes to verbal command
To pain	2	Opens eyes to painful stimulus
None	1	Doesn't open eyes in response to stimulus
Motor response		*As per adult scale*
Obeys	6	Reacts to verbal command
Localises	5	Attempts to remove source of pain
Withdraws	4	Flexes and withdraws from painful stimulus
Abnormal flexion	3	Flexes, but does not localise pain
Abnormal extension	2	Extends limbs
None	1	No response; just lies flaccid
Best verbal response		
	5	Appropriate words or social smiles, fixes on and follows objects
	4	Cries, but is consolable
	3	Persistently irritable
	2	Restless, agitated
	1	Silent
Total score		

04 • Barthel activities of daily living

For staff use only:
Hospital number:
Surname:
First names:
Date of birth:
NHS no: _ _ _ / _ _ _ / _ _ _ _
Use hospital identification label

Key points:

- Commonly used, quick and easy scale describing ADL abilities of patient
- Validity well established (in stroke population)
- Can be used in various settings, eg. face to face, via telephone
- Has floor and ceiling effects
- A change in 4 / 20 points is likely to reflect a real change

		Date							
Bowels	Incontinent	0							
	Occasional accident (1 per week)	1							
	Continent	2							
Bladder	Incontinent or catheterised & unable to manage	0							
	Occasional accident (max 1 x per 24 hours)	1							
	Continent for over 7 days	2							
Grooming	Needs help	0							
	Independent, face, hair, teeth, shaving	1							
Toilet use	Dependent	0							
	Needs some help but can do something	1							
	Independent (on and off, dressing, wiping)	2							
Feeding	Unable	0							
	Needs help cutting, spreading butter etc.	1							
	Independent	2							
Transfer	Unable	0							
	Major help (1–2 people, physical)	1							
	Minor help (verbal or physical)	2							
	Independent	3							
Mobility	Immobile	0							
	Wheelchair independent including corners etc.	1							
	Walks with help of 1 person (verbal or physical)	2							
	Independent (but may use any aid, eg. stick)	3							
Dressing	Dependent	0							
	Needs help but can do half unaided	1							
	Independent	2							
Stairs	Unable	0							
	Needs help (verbal, physical, carrying aid)	1							
	Independent up and down	2							
Bathing	Dependent	0							
	Independent	1							
		Total							

04

Reference

Collin C, Wade DT, Davis S, Horne V (1988). *The Barthel ADL Index: a reliability study.* International Disability Studies, 10, 61-3

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

05 • Northwick Park Dependency Score

For staff use only:
Hospital number:
Surname:
First names:
Date of birth:
NHS no: _ _ _ / _ _ _ / _ _ _ _
Use hospital identification label

Patient details
Date of assessment: DD/MM/YYYY
Diagnosis:
Scorer:
Occasion: ☐ Admission ☐ Fortnightly review ☐ Discharge

For each item, circle the highest score that applies and answer any additional questions

Section 1. Basic care needs

1 • Mobility
(Give most usual method of mobility around bay (hospital) or indoors (home))

Description	Dependency
a) Walks fully independently	0
b) Independent in electric / self-propelled chair	1
c) Walks with assistance / supervision of one	2
d) Uses attendant-operated wheelchair	3
e) Bed-bound (unable to sit in wheelchair)	4

2 • Bed transfers

Description	Dependency
a) Fully independent	0
b) Requires help from one person	1
c) Requires help from two people	2
d) Requires hoisting by 1, and takes <1/2 hr **or**	3
e) Requires hoisting by 2, and takes <1/4 hr	3

3 • Toileting bladder
3.1 Mode of emptying

Which of the following does the patient use to empty their bladder?

	By day	By night
Toilet	☐	☐
Commode	☐	☐
Bottles	☐	☐
Catheter / convene	☐	☐
Bed-pan	☐	☐
Pads	☐	☐

3.2 Need for assistance
(Includes getting there, transferring onto toilet, cleaning themselves, adjusting clothing, and washing hands afterwards.
If using bottle: includes reaching for it, positioning and replacing it unspilt)

Description	Dependency
a) Able to empty their bladder independently	0
b) Set-up only (eg. copes if bottles left within reach) **or**	1
c) Has indwelling catheter/ convene	1
d) Needs help / supervision from 1, and takes <1 /4 hr	2
e) Needs help from 1, and takes more than 1/4 hr	3
f) Needs help from 2, and takes <1/4 hr	4

3.3 Frequency of emptying bladder						
If he / she needs help to pass urine						
How many times do they pass urine during the day?	☐ up to 4 times	☐ 5–6 times	☐ >6 times			
How many times do they pass urine during the night?	☐ 0	☐ 1	☐ 2	☐ >2		

3.4 Urinary incontinence						
Description	**Dependency**					
a) No accidents or leakage from catheter / convene	0					
b) Continent if toiletted regularly. Occasional accidents	1					
c) 1–2 episodes of incontinence / leakage in 24 hrs	2					
d) >2 episodes of incontinence / leakage in 24 hrs	3					
If scored 1: How many times per week?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6
If scored 3: How many times in 24 hrs?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6

4 • Toileting bowels

4.1 Need for assistance

(Includes getting to and transferring onto toilet, cleaning themselves, adjusting clothing, and washing hands afterwards. **If has colostomy**, includes emptying / changing bag hygienically)

Description	**Dependency**
a) Able to empty their bowels independently	0
b) Set-up only (eg. giving suppositories / enema)	1
c) Needs help / supervision from 1, and takes <1/4 hr	2
d) Needs help from 1, and takes more than 1/4 hr	3
e) Needs help from 2, and takes <1 /4 hr	4
f) Needs help from 2, and takes more than 1/4 hr	5

4.2 Frequency of opening bowels (or emptying colostomy bag)

☐ 2–3 times per week ☐ 4–5 times per week ☐ Once a day ☐ Twice a day ☐ > twice a day
(Do not include faecal incontinence here)

What times of day do they normally open their bowels?
☐ Morning ☐ Mid-morning ☐ Midday ☐ Afternoon ☐ Evening ☐ Bedtime

Do they need to open their bowels during the night? ☐ 0 ☐ 1 ☐ 2 ☐ >2

4.3 Faecal incontinence						
Description	**Dependency**					
a) No faecal accidents	0					
b) Requires regular bowel regimen – suppositories / enemas **Enter Section 3: Care Needs Assessment Item No. 4a**	1					
c) Occasional faecal accidents (less than daily)	2					
d) Regular incontinence of faeces	3					
If scored 2: How many times per week?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6
If scored 3: How many times in 24 hrs?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6

5 • Washing and grooming

(Independent face / hair / teeth / shaving (with implements provided)

NB. This item does not include bathing / showering

Description	Dependency
a) Able to wash and groom independently	0
b) Needs help to set up only (eg. laying out things, filling bowl with water)	1
c) Needs help from 1, and takes <1/2 hr	2
d) Needs help from 1, and takes more than 1/2 hr	3
e) Needs help from 2, and takes <1/2 hr	4
f) Needs help from 2, and takes more than 1/2 hr	5
Note: It is very rare to need help from 2 to wash unless patient requires restraint	

6 • Bathing / showering

(Includes getting to bath / shower-room, transferring in and out, washing and drying)

NB. If unable to bath or shower: Complete as for thorough stripwash

Description	Dependency
a) Able to have bath / shower independently	0
b) Needs help to set up only (eg. running bath soaping flannel etc)	1
c) Needs help from 1, and takes <1/2 hr	2
d) Needs help from 1, and takes more than 1/2 hr	3
e) Needs help from 2, and takes <1/2 hr	4
f) Needs help from 2, and takes more than 1/2 hr	5

7 • Dressing

(Includes putting on shoes, socks, tying laces, putting on splint or prosthesis)

Description	Dependency
a) Able to dress independently	0
b) Needs help to set up only (eg. laying out clothes) **or** c) Needs incidental help from 1 (eg. just with shoes)	1 1
d) Needs help from 1, and takes <1/2 hr	2
e) Needs help from 1, and takes more than 1/2 hr	3
f) Needs help from 2, and takes <1/2 hr	4
g) Needs help from 2, and takes more than 1/2 hr	5

8.1 • Eating

Description	Dependency
a) Entirely gastrostomy / nasogastric fed	0
b) Able to eat independently	0
c) Needs help to set up only (eg. opening packs or passing special cutlery)	1
d) Needs help from 1, and takes <1/2 hr	2
e) Needs help from 1, and takes more than 1/2 hr	3

8.2 Drinking

Description	Dependency
a) Entirely gastrostomy / nasogastric fed	0
b) Able to pour own drink and drink it independently	0
c) Able to drink independently if left within reach	1
d) Needs help or supervision, and takes <1/2 hr	2
e) Needs help / supervision, and takes more than 1/2 hr	3

8.3 Enterel feeding (gastrostomy or nasogastric tube)	
Description	**Dependency**
a) No enteral feeding / manage feeds independently	0
b) Needs help to set up feed just once a day	1
c) Needs help to set up feed twice a day	2
d) Needs help to set up feed three times a day	3
e) Needs help to set up feed and extra flushes during the day	4
f) Needs help to set up feed and extra flushes during the day and night	4

9 • Skin pressure relief	
Description	**Dependency**
a) Skin intact, able to relieve pressure independently	0
b) Needs prompting only to relieve pressure	1
c) Skin intact, needs help from 1 to turn (4 hrly)	2
d) Skin intact, needs help from 2 to turn (4 hrly)	3
e) Skin marked or broken, needs 1 to turn (2 hrly)	4
f) Skin marked or broken, needs 2 to turn (2 hrly)	5

10 • Safety awareness	
Description	**Dependency**
a) Fully orientated, aware of personal safety	0
b) Requires some help with safety and orientation but safe to be left for more than 2 hrs + could summon help in emergency	1
c) Requires help to maintain safety could not be left for 2 hrs +could not summon help in an emergency	2
d) Requires constant supervision	3

11 • Communication	
Description	**Dependency**
a) Able to communicate all needs	0
b) Able to communicate basic needs without help	1
c) Able to communicate basic needs with a little help or by using a communication aid or chart	2
d) Able to respond to direct questions about basic needs	3
e) Responds only to gestures and contextual cues	4
f) No effective means of communication	5

12 • Behaviour	
Description	**Dependency**
a) Compliant and socially appropriate	0
b) Needs verbal / physical prompting for daily activities	1
c) Needs persuasion to comply with rehab or care	2
d) Needs structured behavioural modification programme	3
e) Disruptive, inclined to aggression	4
f) Inclined to wander off ward / out of house	5

Section 2 • Special nursing needs

Add 5 for each of the below	
	Dependency
1. Tracheostomy	5
2. Open pressure sore / wound requiring dressings	5
3. >2 interventions required at night	5
4. Patient or relatives need substantial psychological support	5
5. MRSA Screening / isolation	5
6. Intercurrent medical / surgical problem	5
7. Needs one-to-one 'specialing'	5

	Total scores
Section 1: Basic care needs	
Section 2: Special nursing needs	
NPDS nursing dependency score	

Section 3 • Care needs assessment

1 • Stairs	
a) Do they need help or supervision to negotiate stairs?	
In the morning	☐ Yes ☐ No ☐ No stairs or remains on one level
At bed-time	☐ Yes ☐ No ☐ No stairs or remains on one level

2 • Making a snack / meal	
a) Not applicable as entirely gastrostomy fed	0
b) Able to make a snack and drink at home independently	0
c) Able to help themselves if a snack is left out in the kitchen	1
d) Needs meals or drinks putting in front of them	2

3 • Medication (including remembering to take it, opening bottles etc.)	
a) Not applicable (eg. on no medication)	0
b) Able to take all medication independently	0
c) Able to help themselves if tablets left out in the morning	1
d) Requires help for medication to be given	2
If requires help, which times does medication need to be given? (Tick all that apply) ☐ Morning ☐ Mid-morning ☐ Midday ☐ Afternoon ☐ Evening ☐ Bedtime	

4 • Do they require skilled help from a nurse or trained carer for any of the following tasks?	
a) Suppositories / enema	☐ Yes ☐ No
b) Stoma care (tracheostomy, gastrostomy etc)	☐ Yes ☐ No
c) Pressure sore / wound dressing	☐ Yes ☐ No
d) Special medication (eg. insulin injections)	☐ Yes ☐ No
e) Other:	

If skilled help is required how many times a week?	Who provides that help?		
Times per week	Family	Home care	Nurse
for a)	☐	☐	☐
b)	☐	☐	☐
c)	☐	☐	☐
d)	☐	☐	☐

5 • Do they require help for domestic duties?	
a) Light housework	☐ Yes ☐ No
b) Heavy housework	☐ Yes ☐ No
c) Shopping	☐ Yes ☐ No
d) Laundry	☐ Yes ☐ No

06.i • Addenbrooke's Cognitive Examination (ACE-III)

Key points:

- The ACE-III replaced the ACE-R in 2012 which had to be withdrawn due to copyright issues with the Mini-Mental State Examination (MMSE) which could be derived from the ACE-R
- The ACE-III is a helpful bedside assessment of the major domains of cognition and can be completed in 15–20 minutes
- The ACE-III helps the practitioner to target further cognitive assessment as necessary
- Please read the scoring and administration guide before completing the assessment

Instruction

The Addenbrooke's Cognitive Examination-III (ACE-III) is a brief cognitive test that assesses five cognitive domains: attention, memory, verbal fluency, language and visuospatial abilities. The ACE-III replaces the previous Addenbrooke's Cognitive Examination – Revised (ACE-R) and was developed at Neuroscience Research Australia (NeuRA; www.neura.edu.au). The total score is 100 with higher scores indicating better cognitive functioning. Administration of the ACE-III takes, on average, 15 minutes and scoring takes about 5 minutes. These instructions have been designed in order to make the questions and their scoring clear for the tester. Please read them carefully before giving the test. If possible, leave the scoring until the end of the session, since the participant will not be able to check whether the tester is ticking for correct answers or crossing for wrong ones. This might avoid anxiety, which can disturb the participant's performance on the test. To download the ACE-III, as well as updates on publications and language translations, please go to the following website: www.neura.edu.au/frontier/research

Attention – orientation – score 0 to 10

Administration: Ask the participant for the day, date, month, year, season as well as the name of the hospital (or building, or number if an address), floor (or room, or street if an address), town, county and country.
Scoring: Score 1 point for each correct answer. A mistake of ± 2 days is allowed for the date (eg. 5th when the actual date is the 7th). If the participant says "23rd of the third", then prompt for the name of the month. If the participant is at home, ask for the name of the place such as the apartment complex/retirement village and, for the floor, you might ask for the name of the room (eg. kitchen, living room, etc). If at a single storey health setting, you could ask about a local landmark. When the season is changing (eg. at the end of August) and the participant says, "Autumn" then ask, "Could it be another season?" If the answer is 'summer', give 1 point since the two seasons are in transition. Do not give 1 point if the answer is 'winter' or 'spring'.

Seasons: Spring – March, April, May; Summer – June, July, August; Autumn – September, October, November; Winter – December, January, February.

For aphasic patients: Allow patients to write down their answer, if unable to give verbal responses.

Attention – registration of three items – score 0 to 3

Administration: Ask the participant to repeat and remember the three words. Speak slowly. Repeat the words if necessary but up to a maximum of three times only. Tell the participant that you will ask for this information later.
Scoring: Score the first attempt only. Record the number of trials it takes to learn all three words.

Attention – serial 7 subtraction – score 0 to 5

Administration: Ask the participant to subtract 7 from 100, record the answer, and then ask the participant to keep subtracting 7 from each new number until you ask them to stop. Stop the participant after five subtractions.
Scoring: Record responses and do not stop the participant if they make a mistake. Allow them to carry on and check subsequent answers for scoring (eg. 92, 85, 79, 72, 65 – score = 3).

Memory – recall of three items – score 0 to 3

Administration: Ask the participant to recall the words that you asked them to repeat and remember earlier.
Scoring: Record responses and score 1 point for each correct item. Do not prompt the participant for the items.

Verbal fluency – letter and category – score 0 to 14

Letters – score 0 to 7

Administration: Tell the participant: *"I'm going to give you a letter of the alphabet and I'd like you to generate as many words as you can beginning with that letter, but not names of people or places. For example, if I give you the letter 'C', you could give me words like 'cat, cry, clock' and so on. But, you can't give me words like Catherine or Canada. Do you understand? Are you ready? You have one minute. The letter I want you to use is the letter 'P'*.
Scoring: First, record the total number of words that the participant generates. Then, count the total number of correct words, which do not include: (1) repetitions, (2) perseverations (eg. pay, paid, pays – score = 1), (3) intrusions (ie. words beginning with other letters), (4) proper names (ie. names of people or places) and (5) plurals (eg. pot, pots – total = 2, correct = 1). Use the table provided on the ACE-III sheet to obtain the final score for this test.

Animals – score 0 to 7

Administration: Tell the participant: *"Now can you name as many animals as possible. It can begin with any letter."*
Scoring: Again, record the total number of animals that the participant generates. Then, count the total number of correct words, which do not include higher order categories when specific exemplars are given (eg. 'fish' followed by 'salmon' and 'trout' – total = 3; correct = 2). All types of animals are accepted, including insects, humans, prehistoric, extinct as well as mythical creatures (eg. unicorn). If the participant misunderstands the instructions and perseverates by naming animals beginning with 'p' (eg. panda, possum, platypus etc), then reiterate to the participant that they should name animals beginning with any letter.

Memory – anterograde memory – name and address – score 0 to 7

Administration: Instruct the participant: *"I'm going to give you a name and address and I'd like you to repeat the name and address after me. So you have a chance to learn, we'll be doing that 3 times. I'll ask you the name and address later."* If the participant starts repeating along with you, ask them to wait until you give it in full.
Scoring: Record responses for each trial but only responses in the third trial contributes to the ACE-III score (0–7points).

Memory – retrograde memory – famous people – score 0 to 4

Administration: Ask the participant for the name of the current Prime Minister, the woman who was Prime Minister, the president of the USA and the president of the USA who was assassinated in the 1960s.
Scoring: Score 1 point each. Allow surnames (eg. 'Obama') and ask for a surname if only the first name is given (eg. 'Maggie'). If the full name given is incorrect (eg. 'June Thatcher'), then the score would be 0. If there has been a recent change in leaders, probe for the name of the outgoing politician.

Language – comprehension – score 0 to 3

Administration: Place a pencil and a piece of paper in front of the participant. As a practice trial, ask the participant to *"pick up the pencil and then the paper"*. If this is incorrectly performed, score 0 and do not continue any further. Otherwise, continue onwards with the three other commands listed on the protocol.
Scoring: A score of 1 is given for each command performed correctly.

Language – sentence writing – score 0 to 2

Administration: Ask the participant to write at least two sentences about his/her last holiday/weekend/Christmas. Ask the participant to write in complete sentences (ie. do not write in point form) and without use of any abbreviations (eg. '&').
Scoring: Give 1 point if there are at least two sentences about the one topic; and, give another 1 point if grammar and spelling are correct.

Score = 1	
last Christmas I spent holidays with my family I was hot and grandsons went surfing	Grammar incorrect
WE WENT TO AMERICA IN DECEMBER 2011. I LIKE COMING TO NEURO SCIENCE FOR MY CHECK UPS.	Sentences are not related to the one topic
we when to Coolangatta for our last holiday and it was great. [crossed out] we when for walk along the beach to Rainbow bay and play in the water.	Spelling and grammar are both incorrect although these are two sentences related to the one topic
Score = 0	
Sunny Weather	

Language – single word repetition – score 0 to 2

Administration: Ask the participant to repeat each word after you, saying only one word at a time.
Scoring: Only the first attempt is scored. Score 2 if all words are correct; 1 if only 3 are correct; 0 if 2 or less are correct.

Language – proverb repetition – score 0 to 2

Administration: Ask the participant to repeat each proverb.
Scoring: Do not accept partially correct repetitions (eg. 'all that glistens is not gold'). Score 1 point for each proverb.

Note: Following the repetition of each proverb, the examiner may wish to ask the participant "What does this proverb mean?" or "How would you explain this proverb to someone who has not heard it before?" This additional measure can aid the clinician in the qualitative assessment of verbal abstract thinking.

Language – object naming – score 0 to 12

Administration: Ask the participant to name each picture.
Scoring: Correct answers are: spoon; book; penguin; anchor; camel or dromedary; barrel, keg, or tub; crown; crocodile or alligator; harp; rhinoceros or rhino; kangaroo or wallaby; piano accordion, accordion or squeeze box. Score 1 point for each item.

Language – comprehension – score 0 to 4

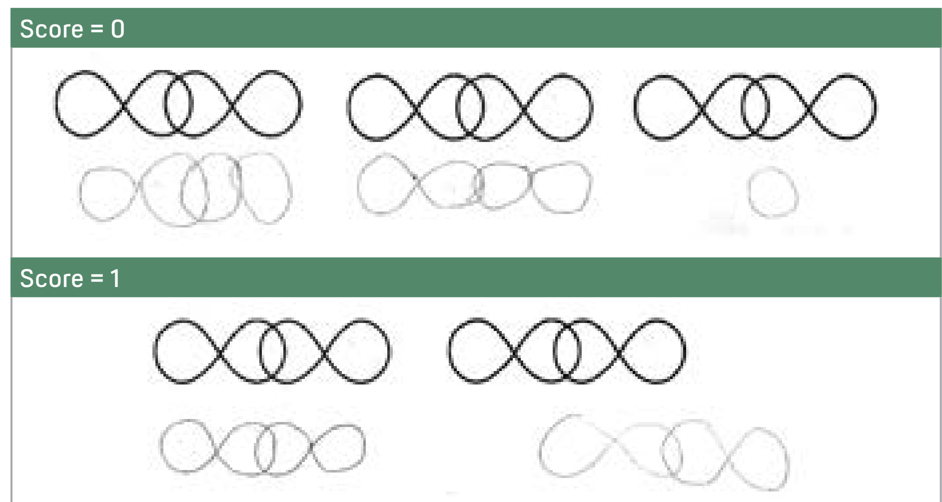
Administration: Ask the participant to point to the pictures according to the statement read. Do not provide any feedback regarding the word meaning.
Scoring: Score 1 point for each item. Self-corrections are allowed.

Language – reading – score 0 or 1

Administration: Ask the participant to read the words aloud.
Scoring: Score 1 point if all five words are read correctly. Record the mistakes using the phonetic alphabet, if possible.

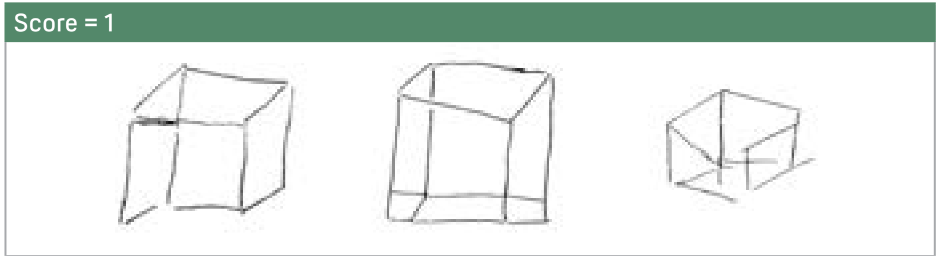
Visuospatial abilities – intersecting infinity loops – score 0 or 1

Administration: Ask the participant to copy the intersecting infinity loops.
Scoring: A score of 1 is given if two infinity loops are drawn and overlap. Both infinity loops must come to a point/cross and do not look like circles.

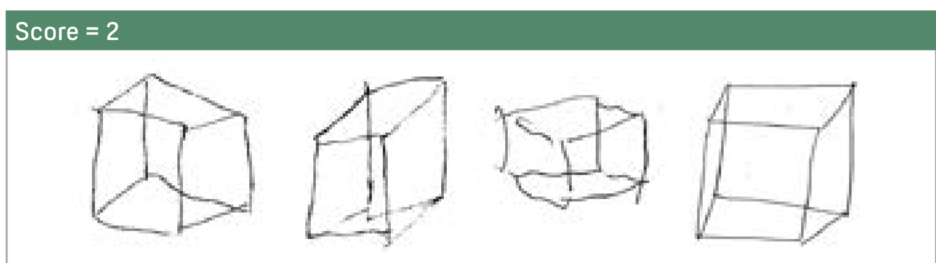


Visuospatial abilities – 3D wire cube – score 0 to 2

Administration: Ask the participant to copy the 3D wire cube.
Scoring: The cube should have 12 lines to score 2 points, even if the proportions are not perfect. A score of 1 is given if the cube has fewer than 12 lines but a general cube shape is maintained.



Score = 2



Visuospatial abilities – clock – score 0 to 5

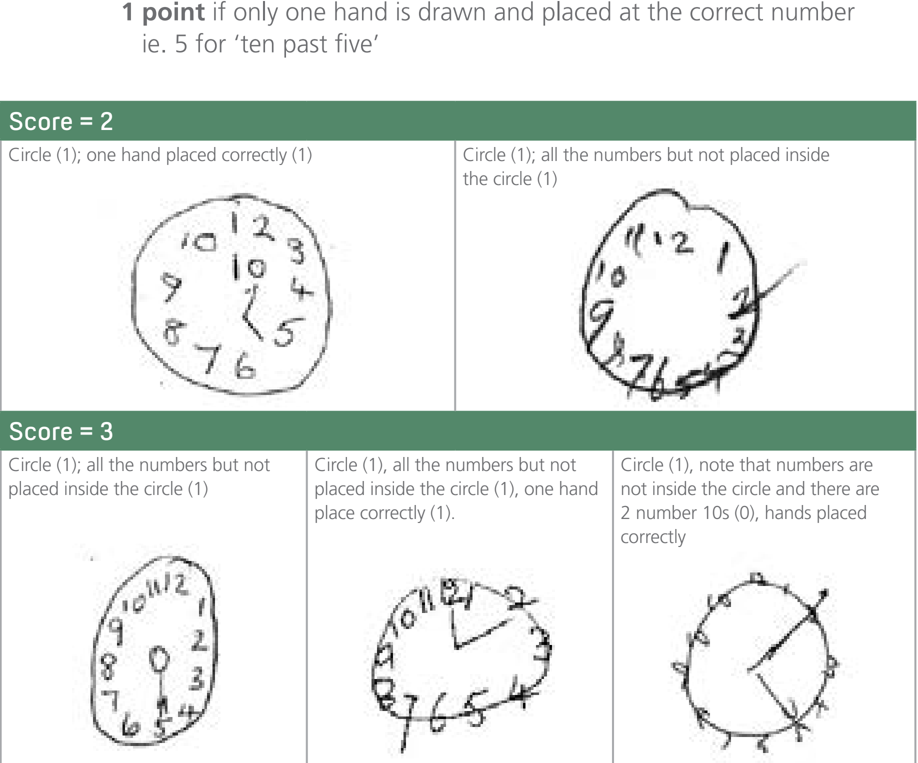
Administration: Ask the participant to draw a clock face with numbers on it. When he/she has finished, ask them to put the hands at ten past five. If the participant does not like their first drawing and would like to do it again, you can allow for that and score the second clock. Participants may correct their mistakes by erasing it while drawing.

Scoring: The following scoring criteria are used below to give a total of 5 points.

Circle **1 point** maximum if it is a reasonable circle

Numbers
- **2 points** if all numbers are included and well distributed within the circle
- **1 point** if all numbers are included but poorly distributed or outside of the circle
- **0 points** if not all numbers are included

Hands
- **2 points** if both hands are well drawn, different lengths and placed on correct numbers (you might ask which one is the small and big one)
- **1 point** if both placed on the correct numbers but wrong lengths **OR**
- **1 point** if one hand is placed on the correct number and drawn with correct length **OR**
- **1 point** if only one hand is drawn and placed at the correct number ie. 5 for 'ten past five'



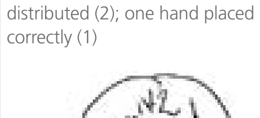
Score = 2

Circle (1); one hand placed correctly (1)	Circle (1); all the numbers but not placed inside the circle (1)

Score = 3

Circle (1); all the numbers but not placed inside the circle (1)	Circle (1), all the numbers but not placed inside the circle (1), one hand place correctly (1).	Circle (1), note that numbers are not inside the circle and there are 2 number 10s (0), hands placed correctly

Score = 4



Circle (1); numbers proportionally distributed (2); one hand placed correctly (1)	Circle (1); all the numbers but not proportionally distributed (1); both hands placed correctly (2)	Circle (1); numbers proportionally distributed (2), one hand placed correctly (1)

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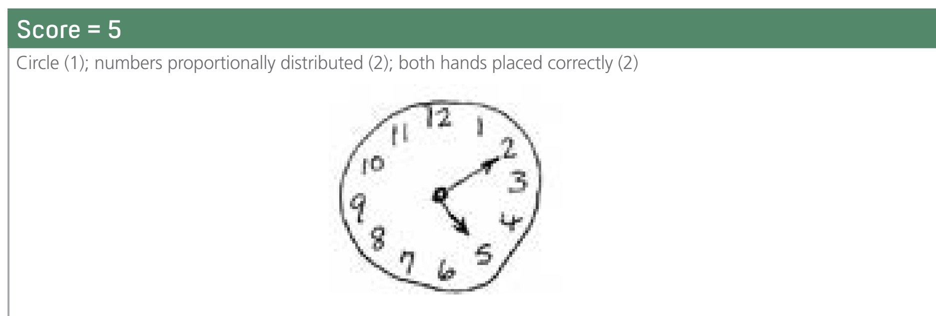
Score = 5

Circle (1); numbers proportionally distributed (2); both hands placed correctly (2)



Perceptual abilities – counting dots – score 0 to 4

Administration: Ask the participant for the number of dots in each square. The participant is not allowed to point.
Scoring: Score 1 point for each correct answer. Correct answers: 8, 10, 9 and 7.

Perceptual abilities – identifying letters – score 0 to 4

Administration: Ask the participant to identify the letter in each square. The participant is allowed to point.
Scoring: Score 1 point for each correct answer. Correct answers: K, M, T and A.

For aphasic patients: If the participant is unable to say the number of dots or letter name, allow them to write their answer. For the letter, allow them to say the correct letter sounds (eg. 'mmm').

Memory – recall of name and address – score 0 to 7

Administration: Say to the participant: *"Now tell me what you remember of that name and address we were repeating at the beginning"*.
Scoring: Score 1 point for each item recalled, using the score guide provided in the test.

Harry Barnes
73 Orchard Close
Kingsbridge
Devon

Example: 1a		
Harry Bond 78 Orchard Close Kingsbury	1 + 0 0 + 1 + 1 0 0	Score 3/7
Example: 2a		
Harry Barnes 73 Kingsbridge Close .... Devon	1 + 1 1 + 0 + 1 0 1	Score 5/7
Example: 3a		
Harry Bond 33 Kingsbury Way Kingsbridge Close Cambridge Devon	1 + 0 0 + 0 + 0 0 + 0 0 1	Score 2/7

Memory – address recall repetition of instruction – score 0 to 5

Administration: This condition is given to participants if they fail to recall one or more items in the recall condition. This task is given to allow the participant a chance to recognise items that he/she could not recall. If all of the items in the name and address are correctly recalled, this condition is not needed and the participant automatically scores 5 points. However, many participants will recall only parts of the name and address. First, tick the correctly remembered items on the shaded column (right hand side) and then tell the participant, "Let me give you some hints. Was it x, y or z?" and so on.
Scoring: Every item recognised correctly scores 1 point. Add the correctly recalled and recognised item to give a total of 5 points for this condition.

Example 1b (based on example 1a)		
Tester ticks Orchard Close on the right hand side shadowed column because participant had recalled that item. The tester should then ask:	Participant's answers:	
• Was it Jerry Barnes, Harry Barnes or Harry Bradford?	Harry Barnes	1
• Was it 37, 73 or 76?	76	0
• Was it Oakhampton, Kingsbridge or Dartington?	Kingsbridge	1
• Was it Devon, Dorset or Somerset?	Dorset	0
		+1 (Orchard Close)
		Score 3/5
Example 2b (based on example 2a)		
Tester ticks 'Harry Barnes', '73' and 'Devon' on the right hand side shadowed column because participant had recalled those items. The tester should then ask:	Participant's answers:	
• Was it on Orchard Place, Oak Close or Orchard Close?	Orchard Close	1
• Was it Oakhampton, Kingsbridge or Dartington?	Kingsbridge	1
		+ 3 (Harry Barnes, 73, Devon)
		Score 5/5
Example 3b (based on example 3a)		
Tester ticks 'Devon', on the right hand side shadowed column because participant had recalled that item. The tester should then ask:	Participant's answers:	
• Was it Jerry Barnes, Harry Barnes or Harry Bradford?	Jerry Barnes	0
• Was it 37, 73 or 76?	37	0
• Was it Orchard Place, Oak Close or Orchard Close?	Orchard Place	0
• Was it Oakhampton, Kingsbridge or Dartington?	Oakhampton	0
		+1 (Devon)
		Score 1/5

Scores – domain and total score of the ACE-III

Scoring: Sum the items for each of the five domains (attention, memory, fluency, language and visuospatial) to give the domain scores for the ACE-III. The Total ACE-III score (/100) consists of the sum of the five domain scores.

06.ii • Addenbrooke's Cognitive Examination (ACE-III)

For staff use only:
Hospital number:
Surname:
First names:
Date of birth:
NHS no: _ _ _ / _ _ _ / _ _ _ _
Use hospital identification label

Patient details

Date of testing: DD/MM/YYYY	Tester's name:
Age at leaving full-time education:	Occupation:
Handedness:	

Attention

Ask: What is the	Day	Date	Month	Year	Season	[Score 0-5]
Ask: Which	No. / floor	Street / hospital	Town	County	Country	[Score 0-5]

Attention

Tell: "I'm going to give you three words and I'd like you to repeat them after me: lemon, key and ball." After subject repeats, say "Try to remember them because I'm going to ask you later".

Score only the first trial (repeat 3 times if necessary).

Register number of trials: ☐

[Score 0-3]

Attention

Ask the subject: "Could you take 7 away from 100? I'd like you to keep taking 7 away from each new number until I tell you to stop."

If subject makes a mistake, do not stop them. Let the subject carry on and check subsequent answers (eg., 93, 84, 77, 70, 63 – score 4).

Stop after five subtractions (93, 86, 79, 72, 65):

[Score 0-5]

Memory

Ask: 'Which 3 words did I ask you to repeat and remember?'

[Score 0-3]

Fluency

Letters

Say: "I'm going to give you a letter of the alphabet and I'd like you to generate as many words as you can beginning with that letter, but not names of people or places. For example, if I give you the letter "C", you could give me words like "cat, cry, clock" and so on. But, you can't give me words like Catherine or Canada. Do you understand? Are you ready? You have one minute. The letter I want you to use is the letter "P".

[Score 0-7]

≥18	7
14–17	6
11–13	5
8–10	4
6–7	3
4–5	2
2–3	1
0–1	0
Total	Correct

Animals

Say: "Now can you name as many animals as possible. It can begin with any letter."

[Score 0-7]

≥22	7
17–21	6
14–16	5
11–13	4
9–10	3
7–8	2
5–6	1
<5	0
Total	Correct

Memory

Tell: "I'm going to give you a name and address and I'd like you to repeat the name and address after me.
So you have a chance to learn, we'll be doing that 3 times. I'll ask you the name and address later."

Score only the third trial..

[Score 0-7]

	1st Trial	2nd Trial	3rd Trial
Harry Barnes			
73 Orchard Close			
Kingsbridge			
Devon			

Memory

[Score 0-4]

Name of the current Prime Minister ______

Name of the woman who was Prime Minister ______

Name of the USA president ______

Name of the USA president who was assassinated in the 1960s ______

Language

[Score 0-3]

Place a pencil and a piece of paper in front of the subject. As a practice trial, ask the subject to "Pick up the pencil and then the paper."
If incorrect, score 0 and do not continue further.

If the subject is correct on the practice trial, continue with the following three commands below.

- Ask the subject to "Place the paper on top of the pencil"
- Ask the subject to "Pick up the pencil but not the paper"
- Ask the subject to "Pass me the pencil after touching the paper"

Language

[Score 0-2]

Ask the subject to write two (or more) complete sentences about his / her last holiday / weekend / Christmas. Write in complete sentences and do not use abbreviations. Give 1 point if there are two (or more) complete sentences about the one topic; and give another 1 point if grammar and spelling are correct.

Language

Ask the subject to repeat: 'caterpillar'; 'eccentricity; 'unintelligible'; 'statistician' Score 2 if all are correct; score 1 if 3 are correct; and score 0 if 2 or less are correct

[Score 0-2]

Ask the subject to repeat: 'All that glitters is not gold'

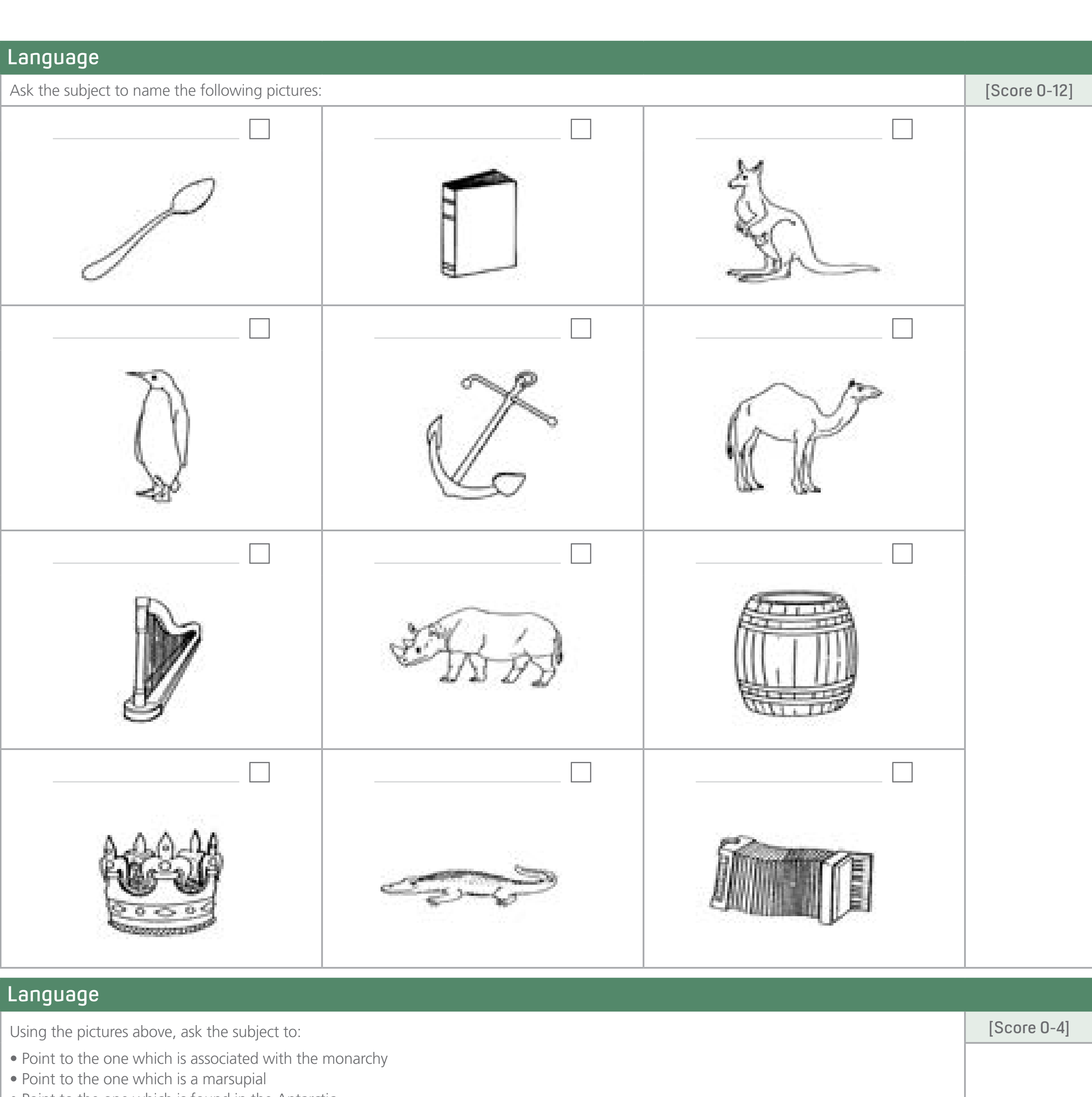
[Score 0-1]

Ask the subject to repeat: 'A stitch in time saves nine'

[Score 0-1]

Language

Ask the subject to name the following pictures:	[Score 0-12]



Language

Using the pictures above, ask the subject to:	[Score 0-4]
• Point to the one which is associated with the monarchy • Point to the one which is a marsupial • Point to the one which is found in the Antarctic • Point to the one which has a nautical connection	

Language

Ask the subject to read the following words: (Score 1 only if all correct)					[Score 0-1]
sew	**pint**	**soot**	**dough**	**height**	

Visuospatial abilities

Infinity Diagram: Ask the subject to copy this diagram	[Score 0-1]

Infinity Diagram: Ask the subject to copy this diagram	[Score 0-2]

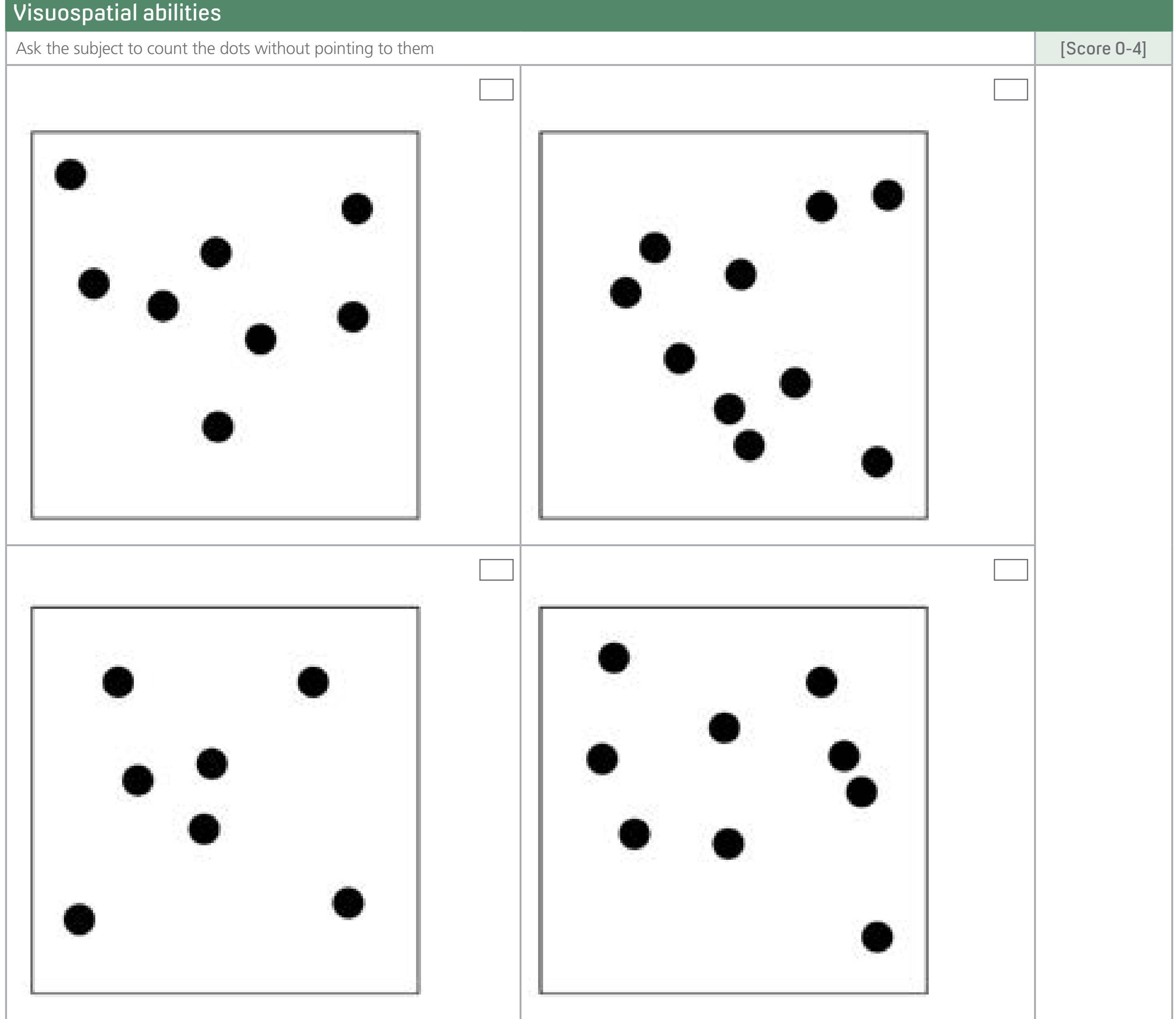
06.ii

Visuospatial abilities

Clock: Ask the subject to draw a clock face with numbers and the hands at ten past five. (For scoring see instruction guide: circle = 1, numbers = 2, hands = 2 if all correct).	[Score 0-5]

Visuospatial abilities

Ask the subject to count the dots without pointing to them	[Score 0-4]



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Visuospatial abilities

Ask the subject to identify the letters	[Score 0-4]

K ☐	M ☐
A ☐	T ☐

Memory

Ask "Now tell me what you remember about that name and address we were repeating at the beginning"		[Score 0-7]
Harry Barnes 73 Orchard Close Kingsbridge Devon		

Memory

This test should be done if the subject failed to recall one or more items above. It all items were recalled, skip the test and score 5. If only part was recalled start by ticking items recalled in the shadowed column on the right hand side; and then test not recalled items by telling the subject "ok, I'll give you some hints: was the name X, Y or Z?" and so on. Each recognised item scores one point, which is added to the point gained by recalling.

[Score 0-5]

Jerry Barnes ☐	Harry Barnes ☐	Harry Bradford ☐	Recalled	
37 ☐	73 ☐	76 ☐	Recalled	
Orchard Place ☐	Oak Close ☐	Orchard Close ☐	Recalled	
Oakhampton ☐	Kingsbridge ☐	Dartington ☐	Recalled	
Devon ☐	Dorset ☐	Somerset ☐	Recalled	

Scores

Total ACE-III score		/ 100
Attention		/ 18
Memory		/ 26
Fluency		/ 14
Language		/ 26
Visuospatial		/ 16

06.ii

07 • Westmead Post Traumatic Amnesia (PTA) scale

For staff use only:
Hospital number:
Surname:
First names:
Date of birth:
NHS no: _ _ _ / _ _ _ / _ _ _ _
Use hospital identification label

PTA may be deemed to be over on the first of 3 consecutive days of a recall of 12
When a patient scores 12 / 12, the picture cards must be changed and the date of change noted.
PTA may be deemed to be over on first day of a recall of 12 for those who have been in PTA for > 4 weeks (Tate, RL *et al*. 2006)

Date of onset: DD/MM/YYYY		Initial examiner:					Alternate face cards used in examiner's absence:							
	Date													
1. How old are you?	A													
	S													
2. What is your date of birth?	A													
	S													
3. What month are we in?	A													
	S													
4. What time of the day is it? (morning / afternoon / night)	A													
	S													
5. What day of the week is it?	A													
	S													
6. What year are we in?	A													
	S													
7. What is the name of this place?	A													
	S													
8. Face	A													
	S													
9. Name	A													
	S													
10. Picture I	A													
	S													
11. Picture II	A													
	S													
12. Picture III	A													
	S													
Orientation:	7													
Recall:	5													
Total:	12													

A = Patient's answer
S = Patient's score (1 or 0)

Adapted by S.Swan, Queensland Health Occupational Therapy Gold Coast Hospital and Royal Brisbane & Women's Hospital, 2009; from Shores, E.A., Marosszeky, J.E., Sandanam, J. & Batchelor, J. (1986). Preliminary validation of a clinical scale for measuring the duration of post-traumatic amnesia. Medical Journal of Australia, 144, 569-572.

08.i • Agitated Behaviour Scale (ABS)

Key points:

Agitation is an excess of one or more behaviours that occurs during an altered state of consciousness (Bogner & Corrigan 1995).

- 'Excessive' behaviours interfere with function and rehabilitation.
- Using the ABS allows serial measurement of agitation in the acute phase of recovery of brain-injured patients.
- It is useful to objectively record if a person's agitation is escalating or receding which helps inform if a particular therapeutic approach to manage their agitation is being helpful or not.
- Observers make a rating of 1–4 on each of the 14 listed items on the score sheet.
- The ABS has been shown to be reliable and valid when administered in the following circumstances: based on a therapist's 30 minute observation period; based on a primary nurse's perceptions over an 8 hour shift; based on the observations of a psychology assistant or rehabilitation nurse over a 10 minute period.
- When looking at the trends in scoring it is important to compare the data scored in the same mode of observation only, eg. only compare 10 minute observations with 10 minute observations.

Analysis of scores

Score	Range
<21	Normal range
22–28	Mild
29–35	Moderate
> 35	Severe

References

Corrigan, J.D. (1989). *Development of a scale for assessment of agitation following traumatic brain injury.* Journal of Clinical and Experimental Neurospychology, 11, 261-277.

Bogner J. (2000). *The agitated behaviour scale. The Centre for Outcome Measurement in Brain Injur.* http://www.tbims.org/combi/coglog

08.ii • Agitated Behaviour Scale (ABS)

For staff use only:
Hospital number:
Surname:
First names:
Date of birth:
NHS no: _ _ _ / _ _ _ / _ _ _ _
Use hospital identification label

Period of observation:	From: HH:MM DD / MM / YYYY To: HH:MM DD / MM / YYYY
Observation environment	
Rater / Discipline	

At the end of the observation period indicate whether the behaviour described in each item was present and, if so, to what degree: slight, moderate or extreme. Use the following numerical values and criteria for your ratings.

1. **Absent:** the behaviour is not present.
2. **Present to a slight degree:** the behaviour is present but does not prevent the conduct of other, contextually appropriate behaviour. (The individual may redirect spontaneously, or the continuation of the agitated behaviour does not disrupt appropriate behaviour.)
3. **Present to a moderate degree:** the individual needs to be redirected from an agitated to an appropriate behaviour, but benefits from such cueing.
4. **Present to an extreme degree:** the individual is not able to engage in appropriate behaviour due to the interference of the agitated behaviour, even when external cueing or redirection is provided.

Do not leave blanks

Test	Score
Short attention span, easy distractibility, inability to concentrate	
Impulsive, impatient, low tolerance for pain or frustration	
Uncooperative, resistant to care, demanding	
Violent and or threatening violence toward people or property	
Explosive and/or unpredictable anger	
Rocking, rubbing, moaning or other self-stimulating behaviour	
Pulling at tubes, restraints, etc.	
Wandering from treatment areas	
Restlessness, pacing, excessive movement	
Repetitive behaviours, motor and/or verbal	
Rapid, loud or excessive talking	
Sudden changes of mood	
Easily initiated or excessive crying and/or laughter	
Self-abusiveness, physical and/or verbal	
Total score	

09.i • Behaviour management (ABC)

Introduction

The ABC forms are designed (as much as possible) to be quick to complete in order to minimise the paper work for nursing staff. It is not always necessary to complete every subsection, but use your judgement in including information you think important.

...Why bother?!

An ABC chart is a useful tool for understanding the behaviours displayed by individuals who have difficulty communicating / expressing their needs. They help us to identify patterns of behaviour and increase our understanding of what the behaviour is achieving for the individual.

ABC stands for:

Antecedent –

- Setting events: Setting events are things which make it more likely that the behaviour will be displayed. Think of them as things which might have put the individual 'on edge'. For example someone who is tired is more likely to be irritable.
- Triggers: Triggers are events that directly precede the problem behaviour. Examples of common triggers include verbal demands, the absence of attention, and the presence of specific events.

Behaviour – What does the behaviour look like? An individual may use more than one behaviour to achieve the same function, with less serious behaviours (eg. tapping) escalating to more serious ones (eg. pushing things over). This important information can be used to intervene early in an escalating sequence of problem behaviours.

Consequence – A patient's problem behaviour may increase to obtain or avoid something. Consequences are the events that directly follow the behaviour. They can reinforce behaviours in two main ways.

- Positive reinforcers: If the consequence following the behaviour results in an individual gaining something it is referred to as positive reinforcement.
- Negative reinforcers: If the consequence following the behaviour results in escape or avoidance of an event and behaviour increases, it is referred to as negative reinforcement.

Finally, your opinions are valuable. Your experience and understanding of a patient is the key to ABC analysis. Think of ABC forms as a tool to record your clinical observations in a focused format, providing an evidence base for developing interventions to modify problem behaviours.

09.ii • Behaviour management

For staff use only:
Hospital number:
Surname:
First names:
Date of birth:
NHS no: _ _ _ / _ _ _ / _ _ _ _
Use hospital identification label

Date & time (When the behaviour occured)	**Antecedent** (What happened right before the behaviour which may have triggered it? What were staff doing? Did they ask someone to do something?)	**Behaviour** (What did the behaviour look like? Describe it, eg. hit, tapped, punched, pushed, swore etc. Please be specific and detailed)	**Consequence** (What happened after the behaviour or as a result of it? What did you do? What was staff's reaction? What was Mr Brown's reaction?)	**Did this work?** (Was it a successful outcome?)	**Staff member** (Print name and designation)
Example 31.08.2011 16:54	Staff went in Mr Brown's room to complete his personal care. Staff introduced themselves to Mr Brown and explained what they were going to do.	When starting to change Mr Brown, he became agitated and started to swear. Mr Brown then started to wave his fist in the air and shouted "I'll hit you" and aimed his fist at the member of staff who was changing his pad.	Staff explained that they were going to walk away from the situation until Mr Brown had calmed down. Mr Brown was left for 5 minutes. When Mr Brown had calmed down staff entered his room and they explained to Mr Brown why they had left and then continued with the activity because Mr Brown was calm.	This worked well as Mr Brown calmed down and we could continue with the activity.	Roger Smith, Assistant Psychologist

10 • Bristol stool chart

Type		Description
1		Separate hard lumps, like nuts (hard to pass)
2		Sausage-shaped but lumpy
3		Like a sausage but with cracks on its surface
4		Like a sausage or snake, smooth and soft
5		Soft blobs with clear cut edges (passed easily)
6		Fluffy pieces with ragged edges, a mushy stool
7		Watery, no solid pieces, entirely liquid

11.i • American Spinal Injuries Assessment scale (ASIA scale)

Key points:

- This internationally-used scale is a standard means of describing the severity of a spinal cord lesion in terms of level of injury, motor and sensory functional impairment in the UK
- The scale also documents which type of cord syndrome is evident and there is an additional scale to record autonomic dysfunction
- Guidance notes on how to assess the motor and sensory systems are available at the ASIA website
- Using the ASIA scale aids effective communication between practitioners and helps target rehabilitation based on anticipated functional outcome

ASIA IMPAIRMENT SCALE

☐ **A = Complete:** No motor or sensory function is preserved in the sacral segments S4-S5.

☐ **B = Incomplete:** Sensory but not motor function is preserved below the neurological level and includes the sacral segments S4-S5.

☐ **C = Incomplete:** Motor function is preserved below the neurological level, and more than half of key muscles below the neurological level have a muscle grade less than 3.

☐ **D = Incomplete:** Motor function is preserved below the neurological level, and at least half of key muscles below the neurological level have a muscle grade of 3 or more.

☐ **E = Normal:** motor and sensory function are normal

CLINICAL SYNDROMES

☐ Central Cord
☐ Brown-Sequard
☐ Anterior Cord
☐ Conus Medullaris
☐ Cauda Equina

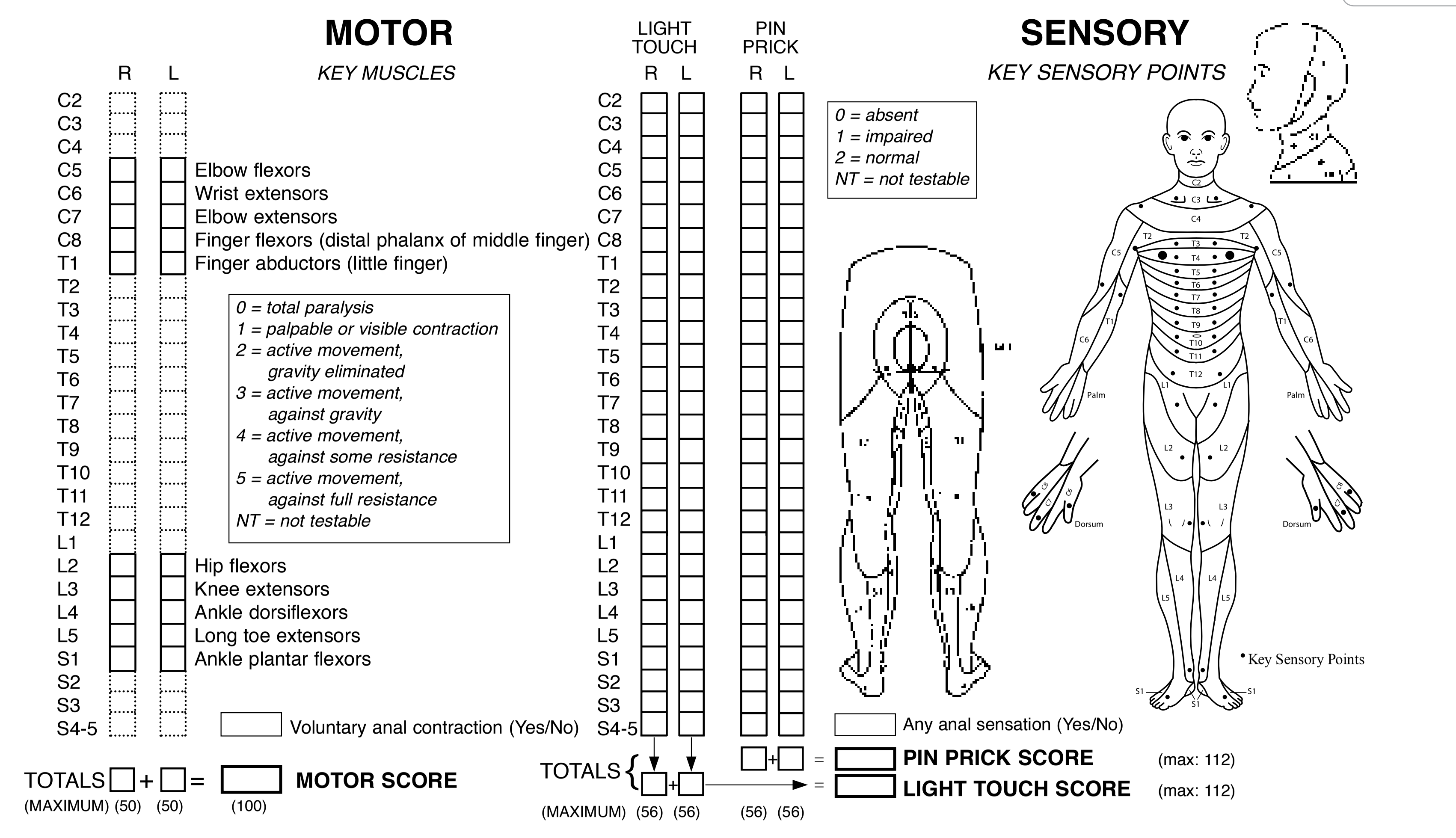
References

http://www.asia-spinalinjury.org/elearning/elearning.php

Kirshblum SC, Waring W, Biering-Sorensen F, *et al.* *Reference for the 2011 revision of the international standards for neurological classification of spinal cord injury.* J Spinal Cord Med 2011;34:547–54.

11.ii • American Spinal Injuries Association scale (ASIA scale)

For staff use only:
Hospital number:
Surname:
First names:
Date of birth:
NHS no: _ _ _ / _ _ _ / _ _ _ _
Use hospital identification label



MOTOR

KEY MUSCLES

	R	L	
C2			
C3			
C4			
C5			Elbow flexors
C6			Wrist extensors
C7			Elbow extensors
C8			Finger flexors (distal phalanx of middle finger)
T1			Finger abductors (little finger)
T2			
T3			
T4			
T5			
T6			
T7			
T8			
T9			
T10			
T11			
T12			
L1			
L2			Hip flexors
L3			Knee extensors
L4			Ankle dorsiflexors
L5			Long toe extensors
S1			Ankle plantar flexors
S2			
S3			
S4-5			

0 = total paralysis
1 = palpable or visible contraction
2 = active movement, gravity eliminated
3 = active movement, against gravity
4 = active movement, against some resistance
5 = active movement, against full resistance
NT = not testable

Voluntary anal contraction (Yes/No)

TOTALS □ + □ = □ MOTOR SCORE
(MAXIMUM) (50) (50) (100)

SENSORY

KEY SENSORY POINTS

	LIGHT TOUCH R	LIGHT TOUCH L	PIN PRICK R	PIN PRICK L
C2				
C3				
C4				
C5				
C6				
C7				
C8				
T1				
T2				
T3				
T4				
T5				
T6				
T7				
T8				
T9				
T10				
T11				
T12				
L1				
L2				
L3				
L4				
L5				
S1				
S2				
S3				
S4-5				

0 = absent
1 = impaired
2 = normal
NT = not testable

Any anal sensation (Yes/No)

TOTALS □ + □ = □ PIN PRICK SCORE (max: 112)
□ + □ = □ LIGHT TOUCH SCORE (max: 112)
(MAXIMUM) (56) (56) (56) (56)

NEUROLOGICAL LEVEL		R	L
The most caudal segment with normal function	SENSORY		
	MOTOR		

COMPLETE OR INCOMPLETE? □
Incomplete = Any sensory or motor function in S4-S5

ASIA IMPAIRMENT SCALE □

ZONE OF PARTIAL PRESERVATION		R	L
Caudal extent of partially innervated segments	SENSORY		
	MOTOR		

This form may be copied freely but should not be altered without permission from the American Spinal Injury Association.

2000 Rev.

12 • Spinal Cord Independence Measure (SCIM)

For staff use only:
Hospital number:
Surname:
First names:
Date of birth:
NHS no: _ _ _ / _ _ _ / _ _ _ _
Use hospital identification label

Examiner name:

Date: DD/MM/YYYY

(Enter the score or each function in the adjacent square, below the date. The form may be used for up to six examinations.)

Self-care

1 • Feeding (cutting, opening containers, pouring, bringing food to mouth, holding cup with fluid)

Date						
Examination	1	2	3	4	5	6
Score						

0. Needs parenteral, gastronomy, or fully assisted oral feeding
1. Needs partial assistance for eating and/or drinking, or for wearing adaptive devices.
2. Eats independently; needs adaptive devices or assistance only for cutting food and/or pouring and/or opening containers.
3. Eats and drinks independently; does not require assistance or adaptive devices.

2 • Bathing (soaping washing, drying body and head, manipulating water tap)

A • upper body

Date						
Examination	1	2	3	4	5	6
Score						

B • lower body

Date						
Examination	1	2	3	4	5	6
Score						

0. Requires total assistance
1. Requires partial assistance
2. Washes independently with adaptive devices or in a specific setting (eg. bars, chair)
3. Washes independently; does not require adaptive devices or in a specific setting (not customary for healthy people) (adss)

3 • Dressing (clothes, shoes, permanent orthoses: dressing, wearing, undressing)

A • upper body

Date						
Examination	1	2	3	4	5	6
Score						

B • lower body

Date						
Examination	1	2	3	4	5	6
Score						

0. Requires total assistance
1. Requires partial assistance with clothes without buttons, zippers or laces (cwobzl)
2. Independent with cwobzl; requires adaptive devices and / or specific settings (adss)
3. Independent with cwobzl; does not require adss; needs assistance or adss only for bzl
4. Dresses (any cloth) independently; does not require adaptive devices or specific setting

4 • Grooming (washing hands and face, brushing teeth, combing hair, shaving, applying makeup)

Date						
Examination	1	2	3	4	5	6
Score						

0. Needs parenteral, gastronomy, or fully assisted oral feeding
1. Requires partial assistance
2. Grooms independently with adaptive devices
3. Washes independently without adaptive devices

Subtotal (0–20)						

Respiration and sphincter management

5 • Respiration

Date						
Examination	1	2	3	4	5	6
Score						

0. Requires tracheal tube (TT) and permanent or intermittent assisted ventilation (IAV).
2. Breathes independently with TT; requires oxygen, much assistance in coughing or TT management.
4. Breathes independently with TT; requires little assistance in coughing or TT management.
6. Breathes independently without TT; requires oxygen, much assistance in coughing, a mask (eg. peep) or IAV (bipap).
8. Breathes independently without TT; requires little assistance or stimulation for coughing.
10. Breathes independently without assistance or device.

6 • Sphincter management – bladder

Date						
Examination	1	2	3	4	5	6
Score						

0. Indwelling catheter
3. Residual urine volume (RUV) > 100cc; no regular catheterisation or assisted intermittent catheterisation
6. Residual urine volume (RUV) < 100cc or intermittent self-catheterisation; needs assistance for applying drainage instrument
9. Intermittent self-catheterisation; uses external drainage instrument; does not need assistance for applying
11. Intermittent self-catheterisation; continent between catheterisations; doe not use external drainage instrument
13. RUV <100cc; needs only external urine drainage; no assistance is required for drainage
15. RUV <100cc; continent; does not use external drainage instrument

7 • Sphincter management – bowel

Date						
Examination	1	2	3	4	5	6
Score						

0. Irregular timing or very low frequency (less than once in 3 days) of bowel movements
5. Regular timing, but requires assistance (eg. for applying suppository); rare accidents (less than twice a month)
8. Regular bowel movements, without assistance; rare accidents (less than twice a month)
10. Regular bowel movements, without assistance, no accidents

8 • Use of toilet (perineal hygiene, adjustment of clothes before / after, use of napkins or nappies)

Date						
Examination	1	2	3	4	5	6
Score						

0. Requires total assistance.
1. Requires partial assistance; does not clean self
2. Requires partial assistance; cleans self independently
4. Uses toilet independently in all tasks but needs adaptive devices or special setting (eg. bars)
5. uses toilet independently; does not require adaptive devices or special setting

Subtotal (0-20)						

12

Mobility

9 • Mobility (room and toilet)

Date						
Examination	1	2	3	4	5	6
Score						

0. Needs assistance in all activities: turning upper body in bed, turning lower body in bed, sitting up in bed, doing push-ups in wheelchair, with or without adaptive devices, nut not with electronic aids
2. Performs one of the activities without assistance
4. Performs two or three of the activities without assistance
6. Performs all the bed mobility and pressure release activities independently

10 • Transfers: bed – wheelchair (locking wheelchair, lifting footrests, removing and adjusting arm rests, transferring, lifting feet)

Date						
Examination	1	2	3	4	5	6
Score						

0. Requires total assistance
1. Needs partial assistance and/or supervision, and/or adaptive devices (eg. sliding board)
2. Independent (or does not require wheelchair)

11 • Transfers: wheelchair – toilet – bath (if uses toilet wheelchair, transfers to and from; if uses regular wheelchair, locking wheelchair, lifting footrests, removing and adjusting armrests, transferring, lifting feet)							
Date							0. Requires total assistance 1. Needs partial assistance and/or supervision, and / or adaptive devices (eg. grab-bars) 2. Independent (or does not require wheelchair)
Examination	1	2	3	4	5	6	
Score							

Mobility (indoors and outdoors, on even surface)

12 • Mobility indoors							
Date							0. Requires total assistance 1. Needs electric wheelchair or partial assistance to operate manual wheelchair 2. Moves independently in manual wheelchair 3. Requires supervision while walking (with or without devices) 4. Walks with a walking frame or crutches (swing) 5. Walks with a crutches or two canes (reciprocal walking) 6. Walks with one cane 7. Needs leg orthosis only 8. Walks without walking aids
Examination	1	2	3	4	5	6	
Score							

13 • Mobility for moderate distances (10–100 mtrs)							
Date							0. Requires total assistance 1. Needs electric wheelchair or partial assistance to operate manual wheelchair 2. Moves independently in manual wheelchair 3. Requires supervision while walking (with or without devices) 4. Walks with a walking frame or crutches (swing) 5. Walks with a crutches or two canes (reciprocal walking) 6. Walks with one cane 7. Needs leg orthosis only 8. Walks without walking aids
Examination	1	2	3	4	5	6	
Score							

14 • Mobility outdoors (more than 100 meters)							
Date							0. Requires total assistance 1. Needs electric wheelchair or partial assistance to operate manual wheelchair 2. Moves independently in manual wheelchair 3. Requires supervision while walking (with or without devices) 4. Walks with a walking frame or crutches (swing) 5. Walks with a crutches or two canes (reciprocal walking) 6. Walks with one cane 7. Needs leg orthosis only 8. Walks without walking aids
Examination	1	2	3	4	5	6	
Score							

15 • Stair management							
Date							0. Unable to ascend or descend stairs 1. Ascends and descends at least 3 steps with support or supervision of another person 2. Ascends and descends at least 3 steps with support of handrail and / or crutch or cane 3. Ascends and descends at least 3 steps without any support or supervision
Examination	1	2	3	4	5	6	
Score							

13 • Waterlow Score Card

For staff use only:
Hospital number:
Surname:
First names:
Date of birth:
NHS no: _ _ _ / _ _ _ / _ _ _ _
Use hospital identification label

All sections **must** be considered and scored if relevant		Date: DD/MM/YYYY Time: HH : MM	Date: DD/MM/YYYY Time: HH : MM	Date: DD/MM/YYYY Time: HH : MM	Date: DD/MM/YYYY Time: HH : MM	Date: DD/MM/YYYY Time: HH : MM
Continence:	Complete / catheterised	0	0	0	0	0
	Urinary incontinence	1	1	1	1	1
	Faecal incontinence	2	2	2	2	2
	Urinary and faecal incontinence	3	3	3	3	3
Mobility:	Full / independent	0	0	0	0	0
	Restless / agitated	1	1	1	1	1
	Apathetic	2	2	2	2	2
	Restricted mobility	3	3	3	3	3
	Bedbound, eg. traction, condition	4	4	4	4	4
	Chairbound, eg. wheelchair	5	5	5	5	5
Tissue malnutrition:	Terminal cachexia (palliative)	8	8	8	8	8
	Multiple organ failure	8	8	8	8	8
	Single organ failure (eg. cardiac)	5	5	5	5	8
	Peripheral vascular disease	5	5	5	5	5
	Anaemia (Hb < 8)	2	2	2	2	2
	Smoker	1	1	1	1	1
Neurological deficit:	Diabetes, CVA, MS	6	6	6	6	6
	Motor / sensory / neuropathy	6	6	6	6	6
	Paraplegia	6	6	6	6	6
Major surgery or trauma:	Orthopaedic / spinal / pelvic trauma	5	5	5	5	5
	On table > 2 hours*	5	5	5	5	5
	On table > 6 hours*	8	8	8	8	8
Medication: cytotoxics, long term / high dose steroids, non-steroidal anti-inflammatory drugs		4	4	4	4	4
Sex:	Male	1	1	1	1	1
	Female	2	2	2	2	2
Age:	Age 14–49	1	1	1	1	1
	Age 50–64	2	2	2	2	2
	Age 65–74	3	3	3	3	3
	Age 75–80	4	4	4	4	4
	Age 81+	5	5	5	5	5
Build: BMI = Wt(Kg) / Ht(m)^2	Average BMI 20–24.9	0	0	0	0	0
	Above average BMI 25–29.9	1	1	1	1	1
	Obese BMI > 30	2	2	2	2	2
	Below average BMI < 20	3	3	3	3	3
Skin type visual risk areas:	Healthy	0	0	0	0	0
	Tissue paper	1	1	1	1	1
	Dry	1	1	1	1	1
	Clammy, sweaty, pyrexial	1	1	1	1	1
	Oedematous	1	1	1	1	1
	Discoloured – grade 1	2	2	2	2	2
	Broken – grade 2–4	3	3	3	3	3
Malnutrition screening tool: A. Has patient lost weight recently? Yes, or unsure = go to B and C, No = go to C						
B. Weight loss score	0.5–5Kg	1	1	1	1	1
	5.1–10kg	2	2	2	2	2
	10.1–15kg	3	3	3	3	3
	> 15kg	4	4	4	4	4
	Unsure	2	2	2	2	2
C. Patient eating poorly or lack of appetite	No	0	0	0	0	0
	Yes	1	1	1	1	1
Add up total from columns. If score =10+ (or cl inical judgement of at risk) **commence care plan and record**						
*Scores can be discounted after 48 hours provided patient is recovering normally.	**Print name:**					
	Signature:					
	Designation/contact number:					

13

Remember tissue damage may start prior to admission in casualty.

A seated patient is at risk. Asessment (see over) if the patient falls into any of the risk categories, then preventative nursing is required a combination of good nursing techniques and preventative aids will be necessary. All actions to be documented.

Prevention	
Pressure reducing aids	
Special mattress / beds	10+ Overlays or specialist foam mattresses 15+ Alternative pressure overlays, mattresses and bed systems 20+ Bed systems: fluidised head, low air loss and alternative pressure mattresses **Note:** Preventative aids cover a wide spectrum of specialist features. Efficacy should be judged, if possible, on the basis of independent evidence.
Cushions	No person should sit on a wheelchair without some form of cushioning. If nothing else is available – use the person's own pillow (consider infection risk). 10+ 100mm foam cushion 15+ Specialist gel and / or foam cushion 20+ Specialist cushion, adjustable to individual person
Bed clothing	Avoid plastic draw sheets, inco pads and tightly tucked in sheet/sheet covers, especially when using specialist bed and mattress overlay systems Use duvet – plus vapour permeable membrane
Nursing care	
General	Hand washing, frequent changes of position, lying, sitting. Use of pillows.
Pain	Appropriate pain control
Nutrition	High protein, vitamins and minerals
Patient handling	Correct lifting technique – hoists, monkey poles, transfer devices
Patient comfort aids	Real sheepskin – bed cradle
Operating table Theatre / A&E trolley	100mm (4ins) cover plus adequate protection
Skin care	General hygiene. No rubbing, cover with an appropriate dressing.
Wound guidelines	
Assessment	Odour, exudate, measure / photograph position
Wound classification – EPUAP	
Grade 1	Discolouration of intact skin not affected by light finger pressure (non-balancing erythema). This may be difficult to identify in darkly pimented skin.
Grade 2	Partial thickness skin loss or damage involving epidermis and / or dermis. The pressure ulcer is superficial and presents clinically as an abrasion, blister or shallow crater.
Grade 3	Full thickness skin loss involving damage of subcutaneous tissue but not extending to the underlying fascia. The pressure ulcer presents clinically as a deep crater with or without undermining of adjacent tissue.
Grade 4	Full thickness skin loss with extensive destruction and necrosis extending to underlying tissue.
Dressing guide	Use local dressings formularly and/or www.worldwidewounds

If treatment is required, first remove pressure