

Guidance for Disability Rating Scale (DRS) for the Outcome form

Outcome Form: DRS instructions

A. EYE OPENING

0 – SPONTANEOUS

eyes open with sleep/wake rhythms indicating active arousal mechanisms, does not assume awareness

1 – TO SPEECH AND/OR SENSORY STIMULATION

response to any verbal approach, spoken/shouted, not necessarily the command to open the eyes; also response to touch, mild pressure

2 – TO PAIN

tested by a painful stimulus

3 – NONE

no eye opening even to painful stimulation

B. COMMUNICATION ABILITY

0 – ORIENTED: Implies awareness of self and the environment. Patient able to tell you a) who he is, b) where he is, c) why he is there, d) year, e) season, f) month, g) day, h) time of day

1 – CONFUSED: attention can be held and patient responds to questions but responses are delayed and/or indicate varying degrees of disorientation and confusion

2 – INAPPROPRIATE: intelligible articulation but speech is used only in an exclamatory or random way (such as shouting and swearing); no sustained communication exchange is possible

3 – INCOMPREHENSIBLE: moaning, groaning or sounds without recognizable words, no consistent communication signs

4 – NONE: no sounds or communications signs from patient

What is the DRS?

- 8-item outcome measure
- Scoring reversed from many scales
- The scale is intended to measure accurately general changes over the course of recovery
- Widely used in brain injury research

3.3 IF ALIVE – DISABILITY RATING SCALE (tick one response for each box) – see overleaf for guidance

<p>a) EYE OPENING</p> <p><input type="checkbox"/> Spontaneous</p> <p><input type="checkbox"/> To Speech</p> <p><input type="checkbox"/> To Pain</p> <p><input type="checkbox"/> None</p>	<p>b) COMMUNICATION ABILITY</p> <p><input type="checkbox"/> Oriented</p> <p><input type="checkbox"/> Confused</p> <p><input type="checkbox"/> Inappropriate</p> <p><input type="checkbox"/> Incomprehensible</p> <p><input type="checkbox"/> None</p>	<p>c) MOTOR RESPONSE</p> <p><input type="checkbox"/> Obeying</p> <p><input type="checkbox"/> Localizing</p> <p><input type="checkbox"/> Withdrawing</p> <p><input type="checkbox"/> Flexing</p> <p><input type="checkbox"/> Extending</p> <p><input type="checkbox"/> None</p>	<p>d) FEEDING <i>(cognitive ability only)</i></p> <p><input type="checkbox"/> Complete</p> <p><input type="checkbox"/> Partial</p> <p><input type="checkbox"/> Minimal</p> <p><input type="checkbox"/> None</p>	<p>e) TOILETING <i>(cognitive ability only)</i></p> <p><input type="checkbox"/> Complete</p> <p><input type="checkbox"/> Partial</p> <p><input type="checkbox"/> Minimal</p> <p><input type="checkbox"/> None</p>
<p>f) GROOMING <i>(cognitive ability only)</i></p> <p><input type="checkbox"/> Complete</p> <p><input type="checkbox"/> Partial</p> <p><input type="checkbox"/> Minimal</p> <p><input type="checkbox"/> None</p>	<p>g) LEVEL OF FUNCTIONING <i>(physical, mental, emotional or social function)</i></p> <p><input type="checkbox"/> Completely independent</p> <p><input type="checkbox"/> Independent in special environment</p> <p><input type="checkbox"/> Mildly dependent – limited assistance</p> <p><input type="checkbox"/> Moderately dependent – moderate assistance</p> <p><input type="checkbox"/> Markedly dependent – assist all major activities, all times</p> <p><input type="checkbox"/> Totally dependent – 24-hour nursing care</p>	<p>h. 'EMPLOYABILITY' <i>(as a full time worker, homemaker, or student)</i></p> <p><input type="checkbox"/> Not restricted</p> <p><input type="checkbox"/> Selected jobs, competitive</p> <p><input type="checkbox"/> Sheltered workshop, non-competitive</p> <p><input type="checkbox"/> Not employable</p>		

History of the DRS

- The DRS was developed in the late 1970's as an alternative to the Glasgow Outcome Scale (GOS), which was thought to be insensitive.
- It was developed and tested with older juveniles and adults with moderate and severe brain injuries in an inpatient rehab setting.



Advantages of the DRS

- Brevity (3 minute average from DC survey)
- Reliability and validity tested
- Useful in a wide variety of settings (coma to community)
- Can be administered over the phone



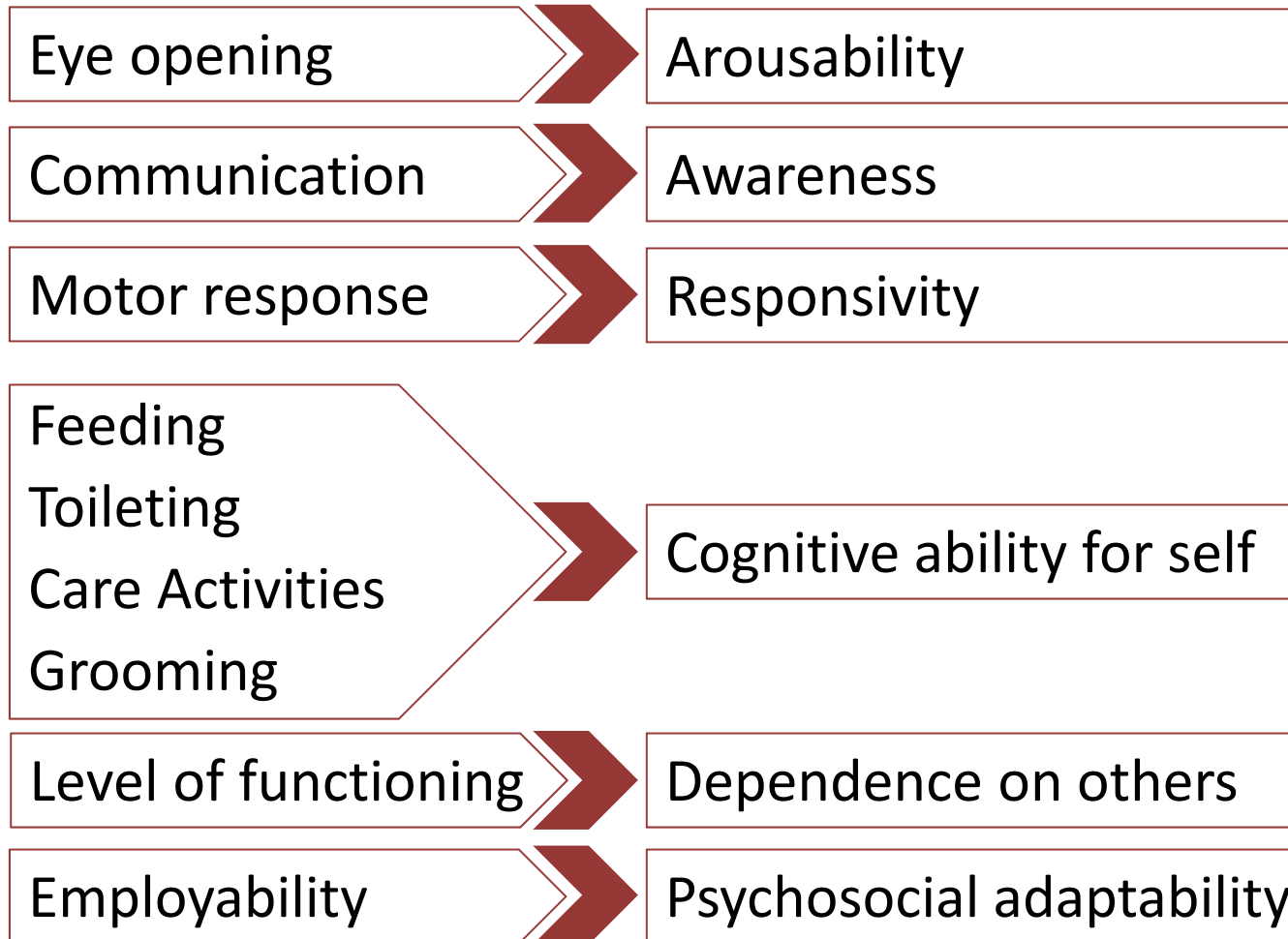
Disadvantages of the DRS

- 'Difficult' to rate
 - Expertise required 4/5 (DC Survey)
 - Content difficulty 4/5 (DC Survey)
- Not sensitive to mild injuries
- Not meant to measure change over short periods of time

Eight items of the DRS

- Eye opening
- Best communication ability
- Best motor response
- Cognitive ability for feeding
- Cognitive ability for toileting
- Cognitive ability for grooming
- Level of functioning
- Employability

DRS – what are we assessing?



Eye opening

0 – Spontaneous

1 – To speech and/or sensory stimulation

2 – To pain

3 – None



Best communication ability

0 – Oriented

1 – Confused

2 – Inappropriate

3 – Incomprehensible

4 – None



If patient cannot use voice because of tracheostomy or is aphasic or dysarthric or has vocal cord paralysis or voice dysfunction, then estimate patient's best response and enter note under comments.

0 – ORIENTED: implies awareness of self and the environment. Patient able to tell you a) who he is, b) where he is, c) why he is there, d) year, e) season, f) month, g) day, h) time of day.

1 – CONFUSED: attention can be held and patient responds to questions but responses are delayed and/or voice varying degrees of disorientation and confusion.

2 – INAPPROPRIATE: intelligible articulation but speech is used only in an exclamatory or random way (such as shouting and swearing), no sustained communication exchange is possible.

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4 – NONE: no sounds or communications signs from patient.

Best motor response

0 – Obeying

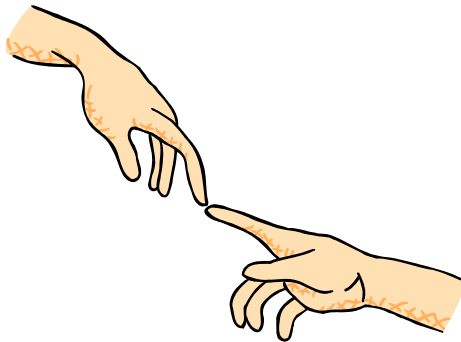
1 – Localizing

2 – Withdrawing

3 – Flexing

4 – Extending

5 – None



0 – OBEYING: obeying command to move finger on best side. If no response or not suitable try another command such as “move lips”, “blink eyes” etc. Do not include grasp or other reflex responses.

1 – LOCALIZING: a painful stimulus at more than one site causes a limb to move (even slightly) in an attempt to remove it. It is a deliberate motor act to move away from or remove the source of noxious stimulation. If there is doubt as to whether withdrawal or localization has occurred after 3 or 4 painful stimulations, rate as localization.

2 – WITHDRAWING: any generalized movement away from a noxious stimulus that is more than a simple reflex response.

3 – FLEXING: painful stimulation results in either at the elbow, rapid withdrawal with abduction of the shoulder or a slow withdrawal with abduction of the shoulder. If there is confusion between flexing and withdrawing, then use pin prick on hands, then face.

4 – EXTENDING: painful stimulation results in extension of the limb.

5 – NONE: no response can be elicited. Usually associated with hypotonia. Exclude spinal transection as an explanation of lack of response, be satisfied that an adequate stimulus has been applied.

Cognitive ability for self care

- Feeding, toileting, grooming
- When and how
 - Rate each of the three functions separately
 - For each function answer the question:
 - Does the patient show awareness of when and how to perform each specified activity?
 - Ignore motor disabilities that interfere with carrying out a function (level of functioning)

Feeding – how and when?

Cognitive ability for feeding:

- How to use suitable utensils
- How to bring food to mouth
- How to chew and swallow safely
- How to drink from a cup or glass
- How to open cans, cut meat, put straw in glass, scoop food, pour liquids etc
- When is it appropriate to eat?

Feeding

- Does the patient need someone to structure or set up, to give prompts or reminders as to how or when to eat, slow down, chew her/his food, come to eat etc?



Feeding rating

0.0 Complete

1.0 Partial

2.0 Minimal

3.0 None

0.0 – **COMPLETE**: continuously shows awareness that he knows how to feed and can convey unambiguous information that he knows when this activity should occur.

0.5

1.0 – **PARTIAL**: intermittently shows awareness that he knows how to feed and/or can intermittently convey reasonably clearly information that he knows when the activity should occur.

1.5

2.0 – **MINIMAL**: shows questionable or infrequent awareness that he knows in a primitive way how to feed and/or shows infrequently by certain signs, sounds or activities that he is vaguely aware when that activity should occur.

2.5

3.0 – **NONE**: shows virtually no awareness at any time that he knows how to feed and cannot convey information by signs, sounds, or activity that he knows when the activity should occur.

Feeding

➤ Example of Partial:

Patient who is able to eat with some supervision (due to eating too fast if not prompted) and asks for food at appropriate times. **Score 1**

➤ Example of Minimal:

Patient seems vaguely aware – once or twice a week asks for food. Can eat a modified diet if supervised because of choking due to gulping. **Score 2**

Toileting – how and when?

- Bladder and bowel behavior
- Other associated toileting activities
- Does the patient need someone to structure or set up, or to give cues, prompts or reminders as to how or when use the bathroom or perform toileting tasks?

Toileting rating

0.0 Complete

1.0 Partial

2.0 Minimal

3.0 None

0.0 – **COMPLETE**: continuously shows awareness that he knows how to toilet and can convey unambiguous information that he knows when this activity should occur.

0.5

1.0 – **PARTIAL**: intermittently shows awareness that he knows how to toilet and/or can intermittently convey reasonably clearly information that he knows when the activity should occur.

1.5

2.0 – **MINIMAL**: shows questionable or infrequent awareness that he knows in a primitive way how to toilet and/or shows infrequently by certain signs, sounds or activities that he is vaguely aware when that activity should occur.

2.5

3.0 – **NONE**: shows virtually no awareness at any time that he knows how to toilet and cannot convey information by signs, sounds, or activity that he knows when the activity should occur.

Toileting

➤ Example of Partial:

Patient is continent of bowel, and during the day indicates need to void, but by end of day does not consistently show awareness of need (due to fatigue, confusion). **Score 1**

➤ Example of Minimal:

Patient indicates awareness for both bowel and bladder need during the day, but is incontinent at night. Patient rarely shows that he can help with toileting activities. **Score 2**

Grooming – how and when?

- Wash
 - Brush teeth
 - Comb or brush hair
 - Bath
 - Dress
 - Shave
- Does the patient need someone to structure or set up, or to give cues, prompts or reminders as to how or when to perform grooming tasks?



Grooming rating

0.0 Complete

1.0 Partial

2.0 Minimal

3.0 None

0.0 – COMPLETE: continuously shows awareness that he knows how to groom and can convey unambiguous information that he knows when this activity should occur.

0.1 – PARTIAL: intermittently shows awareness that he knows how to groom and/or can intermittently convey reasonably clearly information that he knows when the activity should occur.

2.0 – MINIMAL: shows questionable or infrequent awareness that he knows in a primitive way how to groom and/or shows infrequently by certain signs, sounds or activities that he is vaguely aware when that activity should occur.

3.0 – NONE: shows virtually no awareness at any time that he knows how to groom and cannot convey information by signs, sounds, or activity that he knows when the activity should occur.

Grooming

➤ Example of Partial:

Patient's caregiver sets out all the equipment for personal hygiene (toothbrush, comb, shaver). S/he also sets out his clothes, then he can dress himself and complete the rest of his grooming tasks independently. **Score 1**

➤ Example of Minimal:

Patient does not initiate any personal hygiene task, and will wear the same clothing for several days. He requires close supervision for some hygiene items due to safety considerations. **Score 2**

Level of functioning

Remember to consider both physical and cognitive disability

- Could the patient live alone with no assistance?
- Does he need special equipment (cane, walker, memory book etc)?
- Does he need someone coming in at times to give limited help (shopping, bill-paying, meal preparation)?
- Does he need someone around all of the time (safety)?
- Does he need assistance with all of his major activities?
- Is the patient able to assist at all in his own care?
- Does he need 24-hour nursing care?

Level of functioning

0.0 Completely independent

1.0 Independent in special environment

2.0 Mildly dependent

3.0 Moderately dependent

4.0 Markedly dependent

5.0 Totally dependent

0.0 – COMPLETELY INDEPENDENT: able to live as he wishes, requiring no restriction due to physical, mental, emotional or social problems.

1.0 – INDEPENDENT IN SPECIAL ENVIRONMENT: capable of functioning independently when needed requirements are met (mechanical aids)

2.0 – MILDLY DEPENDENT: able to care for most of own needs but requires limited assistance due to physical, cognitive and/or emotional problems (non-resident helper)

3.0 – MODERATELY DEPENDENT: able to care for self partially but needs another person at all times (person in home)

4.0 – MARKEDLY DEPENDENT: needs help with all major activities and the assistance of another person at all times

5.0 – TOTALLY DEPENDENT: not able to assist in own care and requires 24-hour nursing care

Level of functioning

➤ Example of Mildly Dependent:

Patient is mostly independent living at home. Only needs helper for light housecleaning and meal preparation.

Score 2

➤ Example of Markedly Dependent:

Patient needs assistance with all ADL activities and cannot be left unsupervised because of safety issues. Score 4



Employability

- Rate capability for activity, not actual performance.
- Distinguish between “Not restricted” and “Selected Jobs” based on deficits caused by the brain injury.
 - Is the job any different now than it was before the injury?
 - Is it the same?
 - Did they / will they need to cut back on hours / responsibilities?



Employability

- Plan, initiate, understand and carry out work related tasks, as in office/paper work, or manual/factory work, household management, or school assignments
- Handle social situations at work, school or in the community
- Get around independently (use transportation system)
- Deal with number concepts like telling time, doing simple addition
- Buy things at the store, handle cash transactions
- Handle his own schedule, get to places on time and keep appointments

Employability

➤ Is the patient able to:

1. Understand, remember and follow instructions
2. Plan and carry out tasks at least at the level of an office clerk or in simple routine, repetitive industrial situations or can do school assignments
3. Remain oriented, relevant and appropriate in work and other psychosocial situations
4. Get to and from work or shopping centers using private or public transportation effectively
5. Deal with number concepts
6. Make purchases and handle simple money exchange problems
7. Keep track of time schedules and appointments

Employability

0.0 Not Restricted

1.0 Selected jobs,
competitive

2.0 Sheltered workshop,
non-competitive

3.0 Not Employable

0.0 – NOT RESTRICTED: can compete in the open market for a relatively wide range of jobs commensurate with existing skills; or can initiate, plan, execute and assume responsibilities associated with homemaking; or can understand and carry out most age relevant school assignments.

1.0 – SELECTED JOBS, COMPETITIVE: can compete in a limited job market for a relatively narrow range of jobs because of limitations of the type describer above and/or because of some physical limitations; or can initiate, plan, execute and assume many but not all responsibilities associated with homemaking; or can understand and carry out many but not all school assignments.

2.0 – SHELTERED WORKSHOP, NON-COMPETITIVE: cannot compete successfully in job market because of limitations described and/or because of moderate or severe physical limitations; or cannot without major assistance initiate, plan, execute and assume responsibilities for homemaking; or cannot understand and carry out even relatively simple school assignments

3.0 – NOT EMPLOYABLE: completely unemployable because of extreme psychosocial limitations of the type described above, or completely unable to initiate, plan, execute and assume any responsibilities, associated with homemaking, or cannot understand or carry out any school assignment.

Employability

- Example of selected jobs – competitive:
Patient continues to work as an accountant, but because of fatigue issues only works 4-hour days. **Score 1**
- Example of sheltered workshop – noncompetitive:
Patient cannot complete even simple school assignments without any assistance. **Score 2**

Employability

The psychosocial adaptability or 'employability' item takes into account overall cognitive and physical ability to be an employee, homemaker or student. This determination should take into account considerations such as the following:

1. Able to understand, remember and follow instructions.
2. Can plan and carry out tasks at least at the level of an office clerk or in simple routine, repetitive industrial situation or can do school assignments.
3. Ability to remain oriented, relevant and appropriate in work and other psychosocial situations.
4. Ability to get to and from work or shopping centers using private or public transportation effectively.
5. Ability to deal with number concepts.
6. Ability to make purchases and handle simple money exchange problems.
7. Ability to keep track of time and appointments.

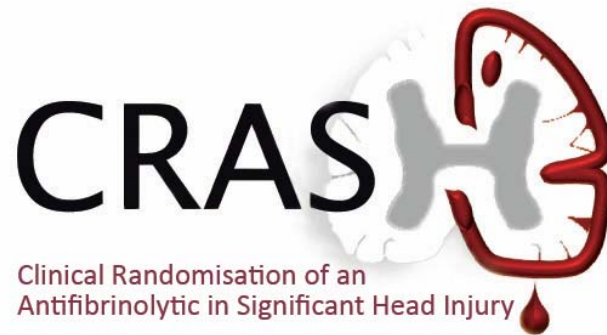
Tips

- If in doubt, give the patient the benefit of the doubt.
- Remember that feeding, toileting and grooming items are rated on cognitive ability to know how and when, not physical ability.
- Level of functioning includes both physical and cognitive disability.



Disability categories

Total DRS	Level of Disability
0	None
1	Mild
2–3	Partial
4–6	Moderate
7–11	Moderately Severe
12–16	Severe
17–21	Extremely Severe
22–24	Vegetative State
25–29	Extreme Vegetative State



Clinical Randomisation of an
Antifibrinolytic in Significant Head Injury

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