

### RAPPAPORT COMA/NEAR-COMA SCALE

(For patients with a Disability Rating (DR) score  $\geq 21$ , i.e., Vegetative State)<sup>1</sup>

(Complete form twice a day for 3 days then weekly for 3 weeks; every two weeks thereafter if DR score  $\geq 21$ . If DR  $< 21$  follow monthly with DR scores.)<sup>2</sup>

NAME \_\_\_\_\_ SEX \_\_\_\_\_ BIRTHDATE \_\_\_\_\_

TYPE OF INJURY: MVA \_\_\_ STROKE \_\_\_ DR \_\_\_\_\_

DATE OF INJURY/ILLNESS \_\_\_\_\_ DATE OF ADMISSION \_\_\_\_\_

HEAD INJURY \_\_\_ ANOXIA \_\_\_ DATE \_\_\_\_\_

FACILITY \_\_\_\_\_ RATER \_\_\_\_\_

OTHER (describe) \_\_\_\_\_ TIME \_\_\_\_\_

Parameter	Stim No.	Stimulus	No. of Trials	Response Measure	Score Options	Score Criteria						
<b>AUDITORY*</b>	1	Bell ringing 5 sec. at 10 sec. intervals	3 <sup>4</sup>	Eye opening, or orientation toward sound	0 2 4	$\geq 3X$ 1 or 2X No response						
<b>COMMAND RESPONSIVITY with priming**</b>	2	Request patient to open or close eyes, mouth, or move finger, hand or leg	3	Response to command	0 2 4	Responds to command 2 or 3X Tentative or inconsistent 1X No response						
<b>VISUAL with priming**</b> Must be able to open eyes; if not, score 4 for each stimulus situation (items 3, 4, 5) and check here ***	3	Light flashes (1/sec. X5) in front; slightly left, right, and up and down each trial	5	Fixation or avoidance	0 2 4	Sustained fixation or avoidance 3X Partial fixation 1 or 2X None						
	4	Tell patient "Look at me"; move face 20" away) from side to side	5	Fixation & tracking	0 2 4	Sustained tracking (at least 3X) Partial tracking 1 or 2X No tracking						
<b>THREAT</b>	5	Quickly move hand forward to within 1-3" of eyes	3	Eye blink	0 2 4	3 blinks 1 or 2 blinks No blinks						
<b>OLFACTORY</b> (block tracheostomy 3-5 seconds if present)	6	Ammonia capsule/bottle 1" under nose for about 2 seconds	3	Withdrawal (w/d) or other response linked to stimulus	0 2 4	Responds 2 or 3X quickly ( $\leq 3$ sec.) Slowed/partial w/d; grimacing 1X No w/d or grimacing						
<b>TACTILE</b>	7	Shoulder tap - Tap shoulder briskly 3X without speaking to patient; each side	3 <sup>4</sup>	Head or eye orientation or shoulder movement to tap	0 2 4	Orients toward tap 2 or 3X Partially orients 1X No orienting or response						
	8	Nasal swab (each nostril; entrance only - do not penetrate deeply)	3 <sup>4</sup>	Withdrawal or eye blink or mouth twitch	0 2 4	Clear, quick (w/in 2 sec.) 2 or 3X Delayed or partial response 1X No response						
<b>PAIN</b> (Allow up to 10 sec. for response) If spinal cord injury check here ____ & go to stimulus 10	9	Firm pinch finger tip; pressure of wood of pencil across nail; each side	3 <sup>4</sup>	See Score Criteria	0 2 4	Withdrawal 2 or 3X Gen. agitn./non-specific movmnt 1X No response						
	10	Robust ear pinch/pull X3; each side	3 <sup>4</sup>	Withdrawal or other response linked to stimulus	0 2 4	Responds 2 or 3X Gen. agitn./non-specific movmnt 1X No response						
<b>VOCALIZATION**</b> (assuming no tracheostomy) If trach. present do not score but check here ____	11	None. (Score best response)	--	See Score Criteria	0 2 4	Spontaneous words Non-verbal vocaliz. (moan, groan) No sounds						
<b>COMMENTS:</b> (Include important changes in physical condition such as infection, pneumonia, hydrocephalus, seizures, further trauma, etc.)							<b>Total CNC Score (add scores)</b>	<b>A</b>				
							<b>Number of items scored</b>	<b>B</b>				
							<b>Average CNC Score (A + B)</b>	<b>C</b>				
							<b>Coma/Near-Coma Level (0-4)<sup>†</sup></b>	<b>D</b>				

<sup>1</sup>Rappaport et al. Disability Rating Scale for Severe Head Trauma Patients: Coma to Community. Arch Phys Med Rehab. 63:118-123, 1982 (Revised Form 1987)

<sup>2</sup>See back for TRAINING NOTE and COMA/NEAR-COMA LEVELS.

\*If possible use brain stem auditory evoked response (BAER) test at 80 db nHL to establish ability to hear in at least one ear.

\*\*Whether or not patient appears receptive to speech, speak encouragingly and supportively for about 30 sec. to help establish awareness that another person is present and advise patient you will be asking him/her to make a simple response. Then request the patient to try to make the same response with brief priming before 2nd, 3rd and subsequent trials.

\*\*\*Make sure patient is not sleeping. Check with nursing staff on eye opening ability and arousability.

\*Each side up to 3X if needed.

\*\*Consult with nursing staff on arousability; do not judge solely on performance during testing. If patient is sleeping, repeat the assessment later.

#### COMA/NEAR-COMA CATEGORIES

<u>Level</u>	<u>Range</u>	<u>Level of Awareness/Responsivity</u>
0	0.00 - 0.89	<b>NO COMA</b> ; consistently and readily responsive to at least 3 sensory stimulation tests●plus consistent responsivity to simple commands.
1	0.90 - 2.00	<b>NEAR COMA</b> ; consistently responsive to stimulation presented to 2 sensory modalities and/or inconsistently or partially responsive to simple commands.
2	2.01 - 2.89	<b>MODERATE COMA</b> ; inconsistently responsive to stimulation presented to 2 or 3 sensory modalities but not responsive to simple commands. May vocalize (in absence of tracheostomy) with moans, groans & grunts but no recognizable words.
3	2.90 - 3.49	<b>MARKED COMA</b> ; inconsistently responsive to stimulation presented to one sensory modality and not responsive to simple commands. No vocalization.
4	3.50 - 4.00	<b>EXTREME COMA</b> ; no responsivity to any sensory stimulation tests; no response to simple commands. No vocalization.

●Sensory stimulation tests are items 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

#### TRAINING NOTE TO NEW RATERS:

While one person does the testing, 2, 3 or more observers rate each item independently (without discussion). Afterwards discuss ratings. If rating is changed, leave initial rating but place changed rating in parenthesis next to it. Repeat this process on 5 to 10 patients or until raters train themselves to place patients at least in the same category range. Thereafter single ratings can be used but, for purposes of reliability, a minimum of two independent ratings per patient is encouraged. Ratings should be done at about the same time each day if possible. Under "Comments" record special information that may have had an extraordinary effect on the ratings on a given day -- such as: Patient was severely ill with pneumonia; patient was vomiting; patient had known increase in intracranial pressure (viz., hydrocephalus) patient fell out of bed; etc.

#### ADDITIONAL COMMENTS:

Please send copies of completed forms for purposes of evaluation and improvement to:

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8/10/90