

Rancho Los Amigos  
Cognitive Recovery  
Scale

## RANCHO LOS AMIGOS COGNITIVE RECOVERY SCALE

The Rancho Los Amigos Cognitive Recovery Scale (RLA) is one of several scales developed to identify stages or levels of brain injury recovery. This scale begins with Level 1 and progresses through Level 10. The treatment team will use this scale as a guide when developing each patient's treatment plan. The team's treatment strategy will change if the patient progresses from one Rancho Level to the next. Each person with a brain injury will move through the Rancho Levels at various speeds. Patients will be discharged from the hospital prior to progressing through all of these levels. Therapy services often continue after discharge.

Most patients do not require a lot of stimulation during mid range Rancho Levels (4,5,6). Instead they usually get more than enough stimulation for the whole day by attending therapies. Brief, quiet visits are most helpful. Stimulation can be anything that excites the patient, such as TV, radio, lights, talking, seeing several people at once, being in a hallway or noisy place. The patient may not outwardly show over stimulation and their expression may be blank but still be over stimulated on the "inside". They may, for example, sweat or breathe rapidly when over stimulated.

### Recovery Levels

Level I (1). **No response** (to any stimulus): Total Assistance – the patient appears to be in a deep sleep or coma and does not respond when presented with visual, auditory, tactile, proprioceptive, vestibular or painful stimuli.

Level II (2). **Generalized response**: Total Assistance – the patient moves around, but movement does not seem to have a purpose or consistency. This reaction may be due to deep pain. Patient may open their eyes but do not seem to be focused on anything in particular.

Level III (3). **Localized response**: Total Assistance – the patient begins to move their eyes and look at specific people and objects. They turn toward or away from loud voices or noise. The patient at level 3 may follow a simple command such as, "squeeze my hand." Responses are inconsistent and directly related to the type of stimulus.

Level IV (4). **Confused and agitated**: Maximal Assistance – the patient is very confused and agitated about where he or she is and what is happening in the surroundings. At the slightest provocation, the patient may become very restless, aggressive, or abusive (verbally and/or physically). The patient may enter into incoherent conversation in reaction to inner confusion, fear or disorientation. Motor activities that could be detrimental are attempted. Safety and deficit awareness are important issues.

Level V (5). **Confused, inappropriate, non-agitated**: Maximal Assistance – the patient is confused and does not make sense in conversations, but may be able to follow simple directions. Stressful situations may provoke some upset, but agitation is no longer a major problem. Patients may experience some frustration as elements of memory return. Follows tasks for 2-3 minutes but is easily distracted by environment.

Level VI (6). **Confused, appropriate**: Moderate Assistance – the patient's speech makes sense, and he or she is able to do simple things such as dressing, eating, and teeth brushing. Although patients know how to perform a specific activity, they need help discerning when to start and stop. Learning new things may also be difficult. The patient's memory and attention are increasing and he or she is able to attend to a task for 30 minutes.

Level VII (7). **Automatic appropriate**: Minimal Assistance for daily living skills – the patient can perform all self-care activities and are usually coherent. They have difficulty remembering recent events and

discussions. If physically able, can carry out routine activities. Rational judgments, calculations, and solving multi-step problems present difficulties, yet patients may not seem to realize this. Needs supervision for safety.

Level VIII (8). **Purposeful, Appropriate: Stand-By Assistance**: The patient is independent for familiar tasks in a distracting environment for one hour. He or she acknowledges impairments but has difficulty self-monitoring. Emotional issues such as depression, irritability and low frustration tolerance may be observed.

Level IX (9). **Purposeful, Appropriate: Stand-By Assistance on Request**: The patient is able to shift between tasks for two hours. Requires some assistance to adjust to life demands. Emotional and behavioral issues may be of concern.

Level X (10). **Purposeful, Appropriate: Modified Independent**: The patient is goal directed, handling multiple tasks and independently using assistive strategies. Prone to breaks in attention and may require additional time to complete tasks.

Description and family strategies for each RLA Level

**Level I - No Response: Total Assistance**

- Complete absence of observable change in behavior when presented visual, auditory, tactile, proprioceptive, vestibular or painful stimuli.

**Level II - Generalized Response: Total Assistance**

- Demonstrates generalized reflex response to painful stimuli.
- Responds to repeated auditory stimuli with increased or decreased activity.
- Responds to external stimuli with physiological changes generalized, gross body movement and/or not purposeful vocalization.
- Responses noted above may be same regardless of type and location of stimulation.
- Responses may be significantly delayed.

**Level III - Localized Response: Total Assistance**

- Demonstrates withdrawal or vocalization to painful stimuli.
- Turns toward or away from auditory stimuli.
- Blinks when strong light crosses visual field.
- Follows moving object passed within visual field.
- Responds to discomfort by pulling tubes or restraints.
- Responds inconsistently to simple commands.
- Responses directly related to type of stimulus.
- May respond to some persons (especially family and friends) but not to others.

### **Family Strategies for Level I-III**

Family members should not interpret the agitation and confusion as regression, but rather as progress. The individual is not aware of what he/she is doing and is likely to remember little of this period of time.

When relating to a person at a low Rancho level, family and friends should:

- Use calm, reassuring tones, and in a normal tone of voice
- Tell the person what you are going to do before you do it. For example, "I'm going to move your leg."
- Speak in short phrases, keeping comments and questions short and simple. For example, instead of saying, "Can you turn your head to me?" say, "Look at me."
- Allow the person extra time to respond. Sometimes responses are inconsistent, incorrect or do not occur.
- Have one person speak at a time.
- Tell the person who you are, where they are, why they are in the hospital, and what day it is.
- Speak in concrete terms. Discuss things that are happening near the person.
- Bring in favorite belongings and pictures of family members and close friends.
- Bring in familiar activities, such as favorite music, talking about family and friends, reading favorite magazines or books out loud, watching favorite TV shows or videos to stimulate senses and memory.
- Gently massage lotion on the person's arms, legs, back and stomach. This not only increases the person's tactile awareness but also helps prevent skin breakdown.
- Touch the person on the face, arm, or leg with various textures like a washcloth, fuzzy toy, flannel, plastic, rubber, etc. for sensory stimulation.
- Use a variety of soaps, fragrances and lotions to stimulate smell.
- Keep a notebook nearby for family and visitors to sign. Instruct them to log in any noticeable responses to stimuli.
- Limit the number of visitors to 2-3 at a time.
- Keep the room calm and quiet.
- Maintain rest periods.
- Always assume the person with brain injury can understand what is being said. Never discuss subjects that may be upsetting in front of the person.

#### **Level IV - Confused/Agitated: Maximal Assistance**

- Alert and in heightened state of activity.
- Purposeful attempts to remove restraints or tubes or crawl out of bed.
- May perform motor activities such as sitting, reaching and walking but without purpose or upon another's request.
- Very brief and usually non-purposeful moments of sustained alternatives and divided attention.
- Absent short-term memory.
- May cry out or scream out of proportion to stimulus even after its removal.
- May exhibit aggressive or flight behavior.
- Mood may swing from euphoric to hostile with no apparent relationship to environmental events.
- Unable to cooperate with treatment efforts.
- Verbalizations are frequently incoherent and/or inappropriate to activity or environment.

#### **Family Strategies for Level IV**

Rancho Level IV is characterized by: Emergence of Agitation and Confusion

Family members should not interpret the agitation and confusion as regression, but rather as progress.

The individual is not aware of what he/she is doing and is likely to remember little of this period of time.

When relating to a person at Rancho Level IV, family and friends should:

- Tell the person where they are and reassure them that they are safe.
- Bring in family pictures and other personal items. These may make the person feel more comfortable as well as stimulate memory.
- Allow the person as much movement as is safely possible; Take person for rides in a wheel chair, if permitted.
- Not force the person into activities; listen to them and follow their lead, as is safely possible
- Provide frequent rest breaks to minimize episodes of increased restlessness and agitation.
- Keep the room quiet and calm; if the person is agitated, turn off the TV and radio.
- Limit visitors to 2-3 at a time.

### **Level V - Confused, Inappropriate Non-Agitated: Maximal Assistance**

- Alert, not agitated but may wander randomly or with a vague intention of going home.
- May become agitated in response to external stimulation, and/or lack of environmental structure.
- Not yet oriented to person, place or time.
- Frequent brief periods, non-purposeful sustained attention.
- Follows tasks for 2-3 minutes before being easily distracted
- Severely impaired recent memory, with confusion of past and present in reaction to ongoing activity.
- Absent goal directed, problem solving, self-monitoring behavior.
- Often demonstrates inappropriate use of objects without external direction.
- May be able to perform previously learned tasks when structured and cues provided.
- Able to respond appropriately to simple commands fairly consistently.
- Able to converse on a social, automatic level for brief periods of time.
- Verbalizations about present events may become inappropriate and confabulatory.

### **Family Strategies for Level V**

Rancho Level V is characterized by Continued Confusion with Inappropriate but Non-Agitated Behavior. Conversations can be confused, unusual, insistent, humorous or bizarre.

When relating to a person at Rancho Level V, family and friend should:

- Avoid a tendency to reward or play into inappropriate behavior.
- Use redirection and distraction to stop inappropriate behavior. Due to cognitive limitations, reasoning at this stage is not successful, but redirection is often easy and effective, since the patient is so easily distracted.
- Not assume that the person will remember what you tell them. Persons at Rancho Level V often require frequent repetition
- Keep comments and questions short and simple.
- Remind the person of day, date, name and location of the hospital as well as why they are in the hospital.
- Help the person get organized for tasks and activities.
- Bring in familiar pictures and personal objects from home.
- Limit visitors to 2-3 at a time.
- Give patient frequent rest periods.

### **Level VI - Confused, Appropriate: Moderate Assistance**

- Inconsistently oriented to person, time and place.
- Able to attend to highly familiar tasks in non-distracting environment for 30 minutes with moderate redirection.
- Remote memory has more depth and detail than recent memory.
- Vague recognition of some staff.
- Able to use assistive memory aide with maximum assistance.
- Emerging awareness of appropriate response to self, family and basic needs.
- Moderate assist to problem solve barriers to task completion.
- Supervised for old learning (e.g. self care).
- Shows carry over for relearned familiar tasks (e.g. self care).
- Maximum assistance for new learning with little or no carry over.
- Unaware of impairments, disabilities and safety risks.
- Consistently follows simple directions.
- Verbal expressions are appropriate in highly familiar and structured situations.

### **Family Strategies for Level VI**

Rancho Level VI is characterized by Continuing Confusion but Emergence of Appropriate Behavior.

When relating to a person at Rancho Level VI, family and friends should:

- Expect the person to be unaware of their deficits and the need for increased supervision and rehabilitation. They may insist nothing is wrong with them and that they can go home and resume their usual activities.
- Realize that redirection is not effective and arguments can be frequent and prolonged.
- Encourage the person to participate in and continue to stay in rehabilitation services.
- Understand that the person may react to their head injury in a non-emotional manner and may appear not to care that they are injured. Family should know that this behavior is related to their stage of recovery.
- Realize frequent repetition may be necessary.
- Discuss and journal activities that have happened during the day, to help the person improve his/her memory.
- Help with starting and continuing activities.

**Level VII - Automatic, Appropriate: Minimal Assistance for Daily Living Skills**

- Consistently oriented to person and place. Some assistance for orientation in unfamiliar environment.
- Able to attend to highly familiar tasks in a non-distraction environment for at least 30 minutes.
- Minimal supervision for new learning and demonstrates carry over of new learning.
- Initiates and carries out familiar personal and household routine but has poor recall for activities.
- Superficial awareness of his/her condition but unaware of specific impairments and disabilities and the limits they place on his/her ability and safety in carrying out household and community activities.
- Minimal supervision for safety in routine home and community activities.
- Unrealistic planning for the future and overestimates abilities.
- Unable to think about consequences of a decision or action, appears oppositional/uncooperative.
- Unaware of others' needs and feelings Unable to recognize inappropriate social interactions.

**Family Strategies for Level VII**

Rancho Level VII is characterized by Automatic, Appropriate Behavior. Most persons at this level are at home, and are returning to school and possibly work environments. Deficits in memory, information processing, fatigue, behavioral control, and social interactions may hamper performance in these settings, and may be perceived as intentional. Intervention at this level should include persons involved at the school, community, or work environments. Family members should know that judgment may still be impaired and close supervision may still be necessary. Support is important due to the transitional nature of this level of recovery.

When relating to a person at Rancho Levels VII, family and friends should:

- Treat the person in the same way as they did before the brain injury. For example, provide guidance and assistance in decision-making but respect the individual's opinions.
- Speak with normal speech patterns and vocabulary. Simple words or phrases are no longer needed.
- Be careful about teasing or using slang, as they may misunderstand. Sometimes humor is not understood.
- Talk through problems about the person's thinking skills, problem solving or memory challenges without criticizing. Reassure the individual that problems may persist because of the brain injury.
- Encourage the person to remain in therapy, to improve their cognitive skills.
- Check with the physician regarding any restrictions on driving, sports, drinking.
- Encourage the person to use note taking and tape-recorders to help with memory deficits.
- Discuss situations where the person may have had difficulty controlling emotions.
- Talk with the person about feelings and offer outside support such as counseling and/or support groups.



### **Level VIII - Purposeful, Appropriate: Stand-By Assistance**

- Consistently oriented to person, place and time. Able to recall and integrate past and recent events.
- Independently attends to and completes familiar tasks for 1 hour in distracting environments.
- Uses assistive memory devices to recall daily schedule, "to do" lists and record critical information.
- Initiates and carries out steps to complete familiar personal, household, community, work and leisure routines with stand-by assistance and can modify the plan when needed with minimal assistance.
- Requires no assistance once new tasks/activities are learned.
- Aware of and acknowledges impairments and disabilities when they interfere with task completion but requires stand-by assistance to take appropriate corrective action.
- Thinks about consequences of a decision or action with minimal assistance.
- Acknowledges others' needs and feelings and responds appropriately with minimal assistance.
- Low frustration tolerance/easily angered. Argumentative. Self-centered. Depressed. Irritable.
- Uncharacteristically dependent/independent. Overestimates or underestimates abilities.
- Able to recognize and acknowledge inappropriate social interaction behavior and takes corrective action.

### **Family Strategies for Level VIII**

Rancho Level VIII is characterized by Purposeful, Appropriate Behavior. The person can initiate and carry out steps to complete familiar personal, household, community, work and leisure routines and can modify the plan when needed with minimal assistance. Family strategies are similar to those at level VII. When relating to a person at Rancho Levels VIII, family and friends should:

- Treat the person in the same way as they did before the brain injury. For example, provide guidance and assistance in decision-making but respect the individual's opinions.
- Speak with normal speech patterns and vocabulary. Simple words or phrases are no longer needed.
- Be careful about teasing or using slang, as they may misunderstand. Sometimes humor is not understood.
- Talk through problems about the person's thinking skills, problem solving or memory challenges without criticizing. Reassure the individual that problems may persist because of the brain injury.
- Encourage the person to remain in therapy, to improve their cognitive skills.
- Check with the physician regarding any restrictions on driving, sports, drinking.
- Encourage the person to use note taking and tape-recorders to help with memory deficits.
- Discuss situations where the person may have had difficulty controlling emotions.
- Talk with the person about feelings and offer outside support such as counseling and/or support groups.

**Level IX - Purposeful, Appropriate: Stand-By Assistance on Request**

- Independently shifts between tasks and completes them accurately for at least two consecutive hours.
- Uses assistive memory devices to recall daily schedule, "to do" lists and record critical information for later use with assistance when requested.
- Initiates and carries out steps to complete familiar personal, household, community tasks independently, and unfamiliar personal, household, work and leisure tasks with assistance when requested.
- Aware impairments and disabilities when they interfere with a task and takes appropriate corrective action, but requires stand-by assist to anticipate a problem before it occurs and take action to avoid it.
- Able to think about consequences of decisions or actions with assistance when requested.
- Accurately estimates abilities but require stand-by assistance to adjust to task demands.
- Acknowledges others' needs and feelings and responds appropriately with stand-by assistance.
- May have low frustration tolerance and may be easily irritable. Depression may continue.
- Able to self-monitor appropriateness of social interaction with stand-by assistance.

**Level X - Purposeful, Appropriate: Modified Independent**

- Able to handle multiple tasks simultaneously in all environments but may require periodic breaks.
- Able to independently procure, create and maintain own assistive memory devices.
- Independently initiates and carries out steps to complete familiar and unfamiliar personal, household, community, work and leisure tasks but may require more than usual amount of time and/or compensatory strategies to complete them.
- Anticipates impact of impairments and disabilities on ability to complete daily living tasks and takes action to avoid problems before they occur but may require more than usual amount of time and/or compensatory strategies.
- Able to independently think about consequences of decisions or actions but may require more than usual amount of time and/or compensatory strategies to select the appropriate decision or action.
- Accurately estimates abilities and independently adjusts to task demands.
- Able to recognize the needs and feelings of others and automatically respond in appropriate manner.
- Periodic periods of depression may occur.
- Irritability and low frustration tolerance when sick, fatigued and/or under emotional stress.
- Social interaction behavior is consistently appropriate.

**RANCHO LOS AMIGOS MEDICAL CENTER  
PEDIATRIC LEVELS OF CONSCIOUSNESS  
INFANT TO 2 YEARS**

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|------|---|--|
| V.   | NO RESPONSE TO STIMULI                        | A. Complete absence of observable change in behavior to visual, auditory, or painful stimuli.  |
| IV.  | GIVES GENERALIZED RESPONSE TO SENSORY STIMULI | A. Gives generalized startle to loud sound.<br>B. Responds to repeated auditory stimulation with increased or decreased activity.<br>C. Gives generalized reflex response to painful stimuli.  |
| III. | GIVES LOCALIZED RESPONSE TO SENSORY STIMULI   | A. Blinks when strong light crosses visual field.<br>B. Follows moving object passed within visual field.<br>C. Turns toward or away from loud sound.<br>D. Gives specific, localized response to painful stimuli.<br>E. Spontaneous, nonpurposeful movement of extremities.   |
| II.  | RESPONSIVE TO ENVIRONMENT                     | A. Responds to name.<br>B. Recognizes mother or other family members.<br>C. Enjoys imitative vocal play.<br>D. Giggles or smiles when talked to or played with.<br>E. Fussing is quieted by soft voice or touch.   |
| I.   | INTERACTS WITH ENVIRONMENT                    | A. Shows active interest in toys; manipulates or examines before mouthing or discarding.<br>B. Watches other children at play; may move toward them purposefully.<br>C. Initiates social contact with adults; enjoys socializing.<br>D. Shows active interest in bottle.<br>E. Reaches or moves toward person or object. |

**RANCHO LOS AMIGOS MEDICAL CENTER  
PEDIATRIC LEVELS OF CONSCIOUSNESS  
PRE-SCHOOL AGE 2-5 YEARS**

V. NO RESPONSE TO STIMULI

A. Complete absence of observable change in behavior to visual, auditory, or painful stimuli.

IV. GIVES GENERALIZED RESPONSE TO SENSORY STIMULI

A. Gives generalized startle to loud sound.  
B. Responds to repeated auditory stimulation with increased or decreased activity.  
C. Gives generalized reflex response to painful stimuli.

III. GIVES LOCALIZED RESPONSE TO SENSORY STIMULI

A. Blinks when strong light crosses visual field.  
B. Follows moving object passing within visual field.  
C. Turns toward or away from loud sound.  
D. Gives specific localized response to painful stimuli.  
E. Spontaneous, nonpurposeful movement of extremities.

II. RESPONSIVE TO ENVIRONMENT

A. Follows simple commands.  
B. Initiates purposeful activity.  
C. Refuses to follow commands by shaking head or saying "no".  
D. Imitates examiner's gestures or facial expressions.  
E. Responds to name.  
F. Recognizes mother or other family members.

I. ORIENTED TO SELF AND SURROUNDINGS

A. Provides accurate information about self.  
B. Knows he is away from home.  
C. Knows where toys, clothes, etc. are kept.  
D. Actively participates in treatment program.  
E. Recognizes own room, knows way to bathroom, nursing station, etc.  
F. Is potty-trained.  
G. Initiates social contact with adult.  
Enjoys socializing.

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