

Traumatic Brain Injury

Recovery Guide

Speech-Language Pathology

Physical Medicine and Rehabilitation



MICHIGAN MEDICINE
UNIVERSITY OF MICHIGAN

The diagnosis of a Traumatic Brain Injury (TBI) can be overwhelming for family members and caregivers. This guide will help you understand a TBI diagnosis and learn about ways you can help. We follow the **Ranchos Los Amigos Scale of Cognitive Functioning**. This scale was created to track the recovery process of a brain injury based on the patient’s demonstrated behaviors.

Table of Contents:

Cognitive Level I.....4
 What are the characteristics of this level?.....4
 What can I do to help?.....4

Cognitive Level II.....4
 What are the characteristics of this level?.....4-5
 What can I do to help?.....4-5

Cognitive Level III.....5
 What are the characteristics of this level?.....5
 What can I do to help?.....5

Cognitive Level IV.....6
 What are the characteristics of this level?.....6
 What can I do to help?.....6-7

Cognitive Level V.....7
 What are the characteristics of this level?.....7
 What can I do to help?.....7

Cognitive Level VI.....8
 What are the characteristics of this level?.....8
 What can I do to help?.....8

Cognitive Level VII.....9
 What are the characteristics of this level?.....9
 What can I do to help?.....9

Cognitive Levels VIII-X.....9-11

What are the characteristics of these levels?.....9-11
What can I do to help?.....9-11

Conclusion.....12

Rancho Los Amigos Scale of Cognitive Functioning

This document's goal is to describe each level of a patient's cognitive functioning. **Cognitive functioning** includes skills such as orientation (awareness of time and place), appropriate behavior, attention, memory, problem solving, and reasoning. The information below provides helpful strategies on how to appropriately interact with your loved one who has a TBI. Please consult your rehabilitation clinicians or doctors if there are any patient specific questions or concerns.

Cognitive Level I - No Response

What are the characteristics of this level?

- No response to sounds, sights, touch or movement.
- Looking like they are asleep and eyes are closed.
- No actual communication.

What can I do to help?

- Talk in a normal voice (assume they can hear you).
- Tell the person who you are and when you are entering or exiting the room.
- Limit the number of visitors to 2-3 at a time.
- Keep the room calm and quiet.
- Bring in favorite belongings, care products, and pictures of family members or close friends.

Cognitive Level II - Generalized Response:

What are the characteristics of this level?

- Non-purposeful responses to sounds, sights, touches or movements.
 - Non-purposeful responses may include: mouth movements, sweating, breathing faster, moaning, or movement of the arms or legs.
- Responses to questions may be slow and inconsistent.

What can I do to help?

Follow the strategies listed in Cognitive Level I in addition to:

- Encourage eye contact if their eyes are open.
- Keep questions short and simple - only one person should be talking at a time.
- Explain what you are doing.
 - Example: "I'm going to move your arm."
- Allow the person extra time to respond - it's okay if responses are not correct.
- Provide frequent rest periods.

Cognitive Level III - Localized Response:

What are the characteristics of this level?

- Improving alertness and ability to follow simple commands.
- Responding inconsistently with yes and no.
- Showing signs of recognizing family or close friends.

What can I do to help?

Follow the strategies listed in Cognitive Levels I & II in addition to:

- Reduce distractions during interactions.
 - Turn off the TV, close the door, and have one person talk at a time.
- Establish a routine.
- Tell the person what you are going to do before you do it, for example: "I am going to set up your bed."
- Help re-orient by providing basic information such as the month, location, city, or year.
 - Keep a visual aid posted in the room with this information listed.
- Engage in familiar activities such as listening to favorite music, reading aloud to them, watching TV, combing hair, etc.

Cognitive Level IV – Confused, Agitated:

What are the characteristics of this level?

- Confusion, fear and feeling overwhelmed.
 - The person may say hurtful things or be quick to overreact and exhibit anger.
- Impulsivity and restlessness.
 - Pulling at tubes or lines or trying to get out of bed or stand up.
- Exhibiting behavior that is not typical for the person.
 - Kicking, hitting, biting, yelling, or screaming.
- Mood may change without warning.
- Short attention span.
- They may say things that don't make sense or aren't true - this is called **confabulation** and it's often their way of making sense of their confused and fearful feelings.
- They may be hyper-focused on specific tasks or needs such as going to the bathroom, eating or getting dressed.

What can I do to help?

Follow the strategies listed in Cognitive Levels I-III in addition to:

- Do not take what they say or do personally - it is a normal part of the recovery process.
- Provide simple choices to keep them included during recovery
 - Example: "Do you want to wear a t-shirt or a sweatshirt?"
- If they become agitated, stop the interaction and allow them to calm down. You can change the subject, provide them with a simple task (i.e., "Here hold this folder for me") or simply leave the room and let them calm down. If they are at risk of hurting themselves or others, call the nurse.
- Keep your tone neutral and calm. Don't yell or upset them as best you can.

- Do not agree with their made up stories. Attempt to positively redirect them to the present as possible, being mindful of their mood.
- Do not constantly quiz the person it can be overwhelming and cause increased frustration.

Cognitive Level V - Confused, Inappropriate, Non-Agitated

What are the characteristics of this level?

- The person may have increased alertness and should be better able to follow simple commands.
- Ongoing difficulties remembering day-to-day information or why they are in the hospital.
- Less agitation and improving attention, but that may vary with a noisy or busy environment.
- Ongoing difficulty learning new information, provide repetition as needed.
- Most days, they can accomplish routine activities, though there may be difficulty with moving on from one task to the next.
- Little understanding of deficits or limitations.
 - They may not understand the purpose of rehabilitation and may repeatedly request to go home.

What can I do to help?

Follow the strategies listed in Cognitive Levels I-IV in addition to:

- Help the patient list things that have occurred throughout the day so they are able to review and recall these things later.
- Practice old and new daily activities or tasks completed in therapy (e.g. brushing teeth, combing hair, talking about present events).
- Repeat things to reduce disorientation or confusion; try to use concise language.

- Encourage activity during the day to help with sleep at night. Rest breaks are still encouraged.
- Encourage more decision-making for simple choices during daily activities.
- Give positive feedback about their progress.
- Encourage participation in therapies and familiar leisure activities.

Cognitive Level VI - Confused, Appropriate

What are the characteristics of this level?

- The person is inconsistently oriented.
- Follows a schedule with some assistance, but can be confused with changes to routine.
- Able to pay attention for around 30 minutes but can be easily distracted by what is happening around them.
- Has a basic understanding of their injury, but may not understand how their deficits will impact daily activities.
- Day to day memory continues to be impaired.
- Improved ability to recall events before the accident but will have continued difficulty with short term memory.
- They may seem like they are being stubborn due to decreased flexibility and concrete understanding.
- More appropriate in basic conversational exchanges.

What can I do to help?

Follow the strategies listed in Cognitive Levels IV-V in addition to:

- It may be helpful to use an assistive memory aid.
- Repeat information as needed.
- Provide cueing to start an activity.
- Reduce distractions during structured tasks.

Cognitive Level VII - Automatic, Appropriate

What are the characteristics of this level?

- Able to easily follow a set schedule
- Completes self-care tasks independently.
- Difficulty paying attention in stressful situations or with a lot of outside distractions.
- Beginning to retain new information.
- May demonstrate difficulties with empathy or picking up on social cues.
- May demonstrate difficulty with planning, starting and completing activities.
- Trouble understanding how these deficits will impact ability to return to work and their normal daily routine.

What can I do to help?

- Treat the person as an adult by providing guidance and assistance in decision making.
- Use caution when joking or using slang, as the person may misunderstand the meaning.
- Encourage the person to continue with therapy for thinking and memory, even if they feel completely normal.
- Encourage note taking, calendars or planners as a way to help with memory.
- Discuss situations that cause frustration and help provide ways to cope in those situations.
- Encourage safe leisure activities as well as enough sleep and rest.
- Encourage the patient be as independent as possible.

Cognitive Levels VIII - X Purposeful, Appropriate

What are the characteristics of these levels?

- Can remember and connect past and present events consistently.

- Independently initiate and complete familiar tasks for at least 1 hour in a distracting environment.
- Better able to function in the community, but still have ongoing social, emotional, and higher level thinking challenges.
 - Examples: Judgement, organization, self-monitoring, impulse control.
- May become overloaded with difficult, stressful or emergency situations.
- The person uses external memory aids (including entering information and using aid later to remember schedule/information) with occasional help requested.
- May have thinking problems that would not be noticeable to people who did not know the person before the injury.
- Social, emotional and intellectual capacities may continue at a decreased level, but are functional for society.
- Able to live independently, or with less supervision.
- Can start rehabilitation to determine ability to return to work or contribute to the community in other ways.

What can I do to help?

- Encourage participation in therapies, even if they feel completely normal.
- Facilitate independence, but help with decision making or with tasks if needed or asked.
- Help manage emotional changes when needed.
- Encourage use of compensatory strategies such as writing down important information, using alarms or calendars to remember appointments, and reducing environmental distractions during complex tasks.
- Encourage reintegration into the community. Use community resources or collaborate with Social Workers/Medical Team about long term lifestyle needs and potential adjustments that may occur.

- Provide a safe environment and continue established routines at home.
 - Decrease access to alcohol, firearms, and knives.
- Continue to support your family member or friend and provide positive reinforcement.

This document's goal is to describe each level of cognitive functioning and provide helpful strategies on how to appropriately interact with your loved one who has a TBI. Please consult your rehabilitation clinicians or doctors if there are any patient specific questions or concerns.

Disclaimer: This document contains information and/or instructional materials developed by the Michigan Medicine for the typical patient with your condition. It may include links to online content that was not created by Michigan Medicine and for which Michigan Medicine does not assume responsibility. It does not replace medical advice from your health care provider because your experience may differ from that of the typical patient. Talk to your health care provider if you have any questions about this document, your condition or your treatment plan.

Original Scale co-authored by Chris Hagen, Ph.D., Danese Malkmus, M.A., Patricia Durham, M.A. Communication Disorders Service, Rancho Los Amigos Hospital, 1972. Revised 11/15/74 by Danese Malkmus, M.A., and Kathryn Stenderup, O.T.R. Revised scale 1997 by Chris Hagen.

Authors: Bauman, Maria, M.A. CCC-SLP, Hanifan, Dana, M.A. CCC-SLP, Harkaway, Sheila, M.S. CCC-SLP, Ingraham, Brooke, M.A. CCC-SLP, McKeever, Jessica, MSP CCC-SLP, Singer, Thomas, M.A. CCC-SLP, & Spiteri, Adrianna, M.S. CCC-SLP

Plain language editor: Karelyn Munro, BA

Patient Education by [Michigan Medicine](#) is licensed under a [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International Public License](#). Last revised: 03/2020