

# REHABILITATION OF THE PATIENT WITH A TRAUMATIC BRAIN INJURY

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# DISCLAIMERS

- Speaker Bureau - Forest Pharmaceutical for Savella
- Speaker Bureau - King Pharmaceutical for Embeda



# The Rancho Los Amigos Scale

A scale of Cognitive Functioning

# Course Objectives

- Increase Knowledge of the Rancho Los Amigos Scale of Cognitive Functioning
- Increase Knowledge of Medications that may be utilized at different Rancho Levels
- Increase Knowledge of appropriate Rehabilitative Interventions at different Rancho Levels
- Increase Knowledge of the Rehabilitative Team Approach

# Rancho I

- No Response
  - Unresponsive to
    - Touch
    - Pain
    - Auditory
    - Verbal Stimuli
- The patient requires Total Assistance.

# Rancho II

- Generalized Response
  - Inconsistent, non-purposeful response and/or reactions to painful stimuli
    - Demonstrates generalized reflex response to painful stimuli.
    - Responds to repeated auditory stimuli, with increased or decreased activity.
    - Responds to external stimuli with physiological change, generalized gross body movement and/or non-purposeful vocalization.

# Rancho II

- Responses noted previously may be the same regardless of the type or location of the stimulation.
- Responses may be significantly delayed.
- The patient requires Total Assistance.

# Rancho III

- Localized Response
  - Inconsistent reaction directly related to type of stimulation presented
    - Touch
    - Pain
    - Auditory
    - Visual
  - Demonstrates withdrawal or vocalization to painful stimuli.



# Rancho III

- Turns toward or away from auditory stimuli.
- Blinks when strong light crosses the visual field.
- Follows a moving object that is passed within the visual field.
- Responds to discomfort by pulling tubes or restraints.
- Responds inconsistently to simple commands.
- Responses are directly related to the type of stimulus presented.

# Rancho III

- The patient may respond to some persons (especially family and friends) but not to others.
- The patient requires Total Assistance.

# Rancho IV

- Confused, Restless/Agitated
  - Disoriented and unaware of present events, with frequent inappropriate behavior.
    - May yell, hit or bite
  - Attention span is short.
  - Ability to process information is significantly impaired.
  - Alert and in a heightened state of activity.

# Rancho IV

- Purposeful attempts to remove restraints or tubes or crawl out of bed are made.
- May perform motor activities such as sitting, reaching, and walking that are without any apparent purpose or upon another's request.
- Very brief, and usually non-purposeful movements of sustained alternatives and divided attention.
- Absent, short-term memory.

# Rancho IV

- 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 the activity or environment.

# Rancho V

- Confused, Inappropriate, Non-Agitated.
- Responds to external stimuli rather than internal stimuli.
  - Alert, not agitated, 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 oriented to person, place, or time.

# Rancho V

- Frequent brief periods of non-purposeful, sustained attention.
- 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.
- Unable to learn new information.

# Rancho V

- May be able to perform previously learned tasks when structured and cues provided.
- Able to respond appropriately to simple commands fairly consistently with external structures and cues.
- Responses to simple commands without external structure are random and non-purposeful in relation to command.



# Rancho V

- Able to converse on a social, automatic level for brief periods of time and provided external structure and cues.
- Verbalizations about present events become inappropriate and confabulatory when external structure and cues are not provided.

# Rancho V

- The patient requires Maximal Assistance.

# Rancho VI

## Confused, Appropriate

- Behavior is goal-directed.
- Responses are appropriate to the situation.
- Incorrect responses are due to memory difficulties.
- Inconsistently oriented to person, time, and place.
- Able to attend to highly familiar tasks in a non-distracting environment for 30 minutes with moderate redirection.
- Remote memory has more depth and detail than recent memory.

# Rancho VI

- Vague recognition of some staff.
- Able to use assistive memory aid with maximum assistance.
- Emerging awareness of appropriate response to self, family, and basic needs.
- Moderate assistance to problem solve barriers to task completion.
- Supervision for old learning (i.e., self-care).

# Rancho VI

- Shows carry over for re-learned familiar tasks (i.e., self-care).
- Maximum assistance with little or no carry over.
- Consistently follows simple directions.
- Verbal expressions are appropriate in highly familiar and structured situations.
- The patient requires Moderate Assistance.

# Rancho VII

- Automatic , Appropriate
  - Correct routine responses that are robot-like.
  - Appears oriented to setting
  - Insight, judgment, and problem solving are poor.
  - Consistently oriented to person and place, within highly familiar environments. Moderate assistance for orientation to time.
  - Able to attend to highly familiar tasks in a non-distracting environment for at least 30 minutes, with minimal assistance to complete tasks.

# Rancho VII

- Minimal supervision for new learning.
- Demonstrates carry over of new learning.
- Initiates and carries out steps to complete familiar personal and household routine, but has shallow recall of what he/she has been doing.
- Able to monitor accuracy and completeness of each step in routine personal and household ADLs and modify plan with minimal assistance.

# Rancho VII

- Superficial awareness of his/her condition, but unaware of specific impairments and disabilities and the limits they place on his/her ability to safely, accurately, and completely, carry out his/her household, community, work, and leisure ADLs.
- Minimal supervision for safety in routine home and community activities.
- Unrealistic planning for the future.



# Rancho VII

- Unable to think about consequences of a decision or action.
- Overestimates abilities.
- Unaware of others' needs and feelings.
- Oppositional/uncooperative.
- Unable to recognize inappropriate social interaction behavior.
- The patient requires Minimal Assistance for daily living skills.

# Rancho VIII

- Purposeful, Appropriate
  - Correct responses.
  - Carryover of new learning.
  - Poor tolerance for stress.
  - Some abstract reasoning difficulties.
  - Insight, judgment, and problem solving require Minimal Assistance to Supervision.
  - Consistently oriented to person, place, and time.

# Rancho VIII

- Independently attends to and completes familiar tasks for one hour in distracting environments.
- Able to recall and integrate past and recent advance.
- Uses a system memory device to recall daily schedule, “to do” list and record critical information for later use with stand-by assistance.

# Rancho VIII

- 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 that requires stand-by assistance to take appropriate corrective action.

# Rancho VIII

- Thinks about consequences of a decision or action with minimal assistance.
- Overestimates or underestimates abilities.
- Acknowledges others' needs and feelings and responds appropriately with minimal assistance.
- Depressed.
- Irritable.
- Low frustration tolerance/easily angered.
- Argumentative.

# Rancho VIII

- Self-centered.
- Uncharacteristically dependent/independent.
- Able to recognize and acknowledge inappropriate social interaction/behavior while it is occurring and takes corrective action with minimal assistance.
- The patient requires Stand-By Assistance.

# Rancho IX

- Purposeful, Appropriate
  - Able to shift attention and use memory aides.
  - Insight, judgment, problem solving, and self-monitoring require stand-by assistance.
  - Independently shifts back and forth between tasks and completes them accurately for at least two consecutive hours.
  - Uses assistive memory devices to recall daily schedule, “to do” list and record critical information for later use with assistance when requested.

# Rancho IX

- Initiates and carries out steps to complete familiar personal, household, work, and leisure tasks independently, and unfamiliar personal, household, work, and leisure tasks with assistance when requested.
- Aware of and acknowledges impairments and disabilities when they interfere with task completion and takes appropriate corrective action, but requires stand-by assistance to anticipate a problem before it occurs and take action to avoid it.



# Rancho IX

- Able to think about consequences of decisions or actions, with assistance when requested.
- Accurately estimates abilities; requires stand-by assistance to adjust to task demands.
- Acknowledges others' needs and feelings and responds appropriately with stand-by assistance.
- Depression may continue.
- May be easily irritable.
- May have low frustration tolerance.

# Rancho IX

- Able to self monitor appropriateness of social interaction with stand-by assistance.
- The patient requires Stand-By Assistance on request.

# Rancho X

- Purposeful, Appropriate
  - Independently uses strategies if needed for
    - Memory
    - Attention
    - Judgment
    - Problem solving
    - Self-monitoring
  - Aware of strengths and weaknesses.

# Rancho X

- Able to handle multiple tasks simultaneously in all environments; 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.

# Rancho X

- Anticipates impact of impairments and disabilities on ability to complete daily tasks and takes action to avoid problems before they occur, but may require more than the usual amount of time and/or compensatory strategies.
- Able to independently think about consequences of decisions or actions, but may require more than the usual amount of time and/or compensatory strategies to select the appropriate decision or action.

# Rancho X

- Accurately estimates abilities and independently adjusts task demands.
- Able to recognize the needs and feelings of others and automatically respond in an 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.

# Rehabilitation

- Rancho I, II, III
  - Sensory regulation.
    - Limit visitors and interactions
      - Educate family and visitors
    - Limit external stimulation
  - Sensory Stimulation.
    - Structured program of stimulation
      - Stimulating each sense
      - Educate family and significant others
  - ROM

# Rehabilitation

- Rancho I, II, III
  - Medications
    - Rancho I
      - ?
    - Rancho II
      - Amantidine
      - Consider other stimulants



# Rehabilitation

- Rancho I, II, III
  - Medications
    - Rancho III
      - Ritalin
      - Provigil
      - Nuvigil
      - Bromocriptine
    - Need to monitor Ammonia levels

# Rehabilitation

- Rancho IV
  - Sensory regulation.
    - To decrease over stimulation
  - Sitter and/or Bed Enclosure as needed.
  - Behavioral Medicine.
    - Set-up Behavioral Modification Program
  - Medications:
    - BuSpar
    - Resperdal
    - Topamax
    - Inderol
    - Zyprexa

# Rehabilitation

- Rancho V
  - Sensory regulation.
  - May still need Bed Enclosure-intermittently.
  - Mobility skills.
  - Self-care skills.
  - Cognition/communication.
  - Behavioral Modification.

# Rehabilitation

- Rancho VI
  - Sensory Regulation.
  - Mobility Skills.
  - Self-care Skills.
  - Cognition/Communication.
  - Behavioral Modification/Adjustment.

# Rehabilitation

- Rancho VII and Rancho VIII
  - Mobility skills.
  - Self-care skills.
  - Cognition.
  - Continue reintegration into the community.
  - Behavioral Medicine/Psychology.
    - Adjustment/Depression
    - Neuropsychological Testing
  - Preparing to return to work/school.
  - Vocational Rehabilitation.

# Rehabilitation

- Rancho IX
- Rancho X
  - Behavioral Medicine.
    - Depression
    - Adjustment
    - Neuropsychological testing
  - VR
    - Return to work/school issues
  - PT/OT/ST as needed

# Summary

- Rancho Los Amigos Scale
- Rehabilitation starts in ICU and progresses
- Family involvement is necessary
- Family education is ONGOING

# THE END

- Questions???



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