



This PowerPoint file is a supplement to the video presentation. Some of the educational content of this program is not available solely through the PowerPoint file. Participants should use all materials to enhance the value of this continuing education program.

## *Traumatic Brain Injury: A Nursing Guide for Rehabilitation Part 2*



*Kim Schober, RN, MSN, CRRN*  
*Nurse Manager*  
*Trustpoint Rehabilitation of*  
*Lubbock*  
*Lubbock, Texas*

## Review of Part One

- Demographics
- Types of brain injuries
- Assessment tools used with brain injuries
- Anatomy of the brain and what brain structures control in a non-injured brain

## Goals

- Identify techniques to utilize with a traumatic brain injury (TBI) during rehabilitation
- Identify common obstacles met during brain injury rehabilitation
- Understand the physical, cognitive, and behavioral aspects of brain injury rehabilitation
- Identify the need for a team approach for brain injury rehabilitation

## Recovery from TBI

- Nature of the injury
- Physical condition
- Extent of injury
- Location of injury
- Psychosocial background
- Sex of the patient
- Family support and perception
- Age of the patient
- Duration of the lesion

## TBI and the Family

Educate family

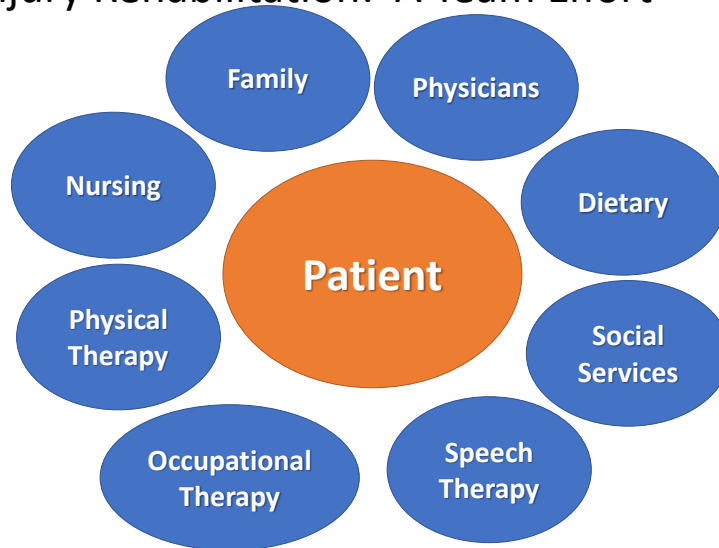
## Educate Family

- Frustrating and exhausting nature of TBIs
- Long-term effects of a brain injury
- Patient care and care plans
- Caregiver burnout and caregiver self-care

## TBI Rehabilitation Goals: Reintegration

- Life-long disabilities
- Home life
- Work/school
- Socialization
- Emotional liability
- Injury variables

## Brain Injury Rehabilitation: A Team Effort



## Rehabilitation from a TBI

- Issues to deal with for the TBI patient:
  - physical
  - cognitive
  - behavioral

## Rehabilitation: Physical

- Vary greatly with each patient
- Important to know what area of the brain was damaged, if possible
- Be aware of Rancho scores in order to know what to expect from patient and how to integrate those adaptations into treatment

## Rehabilitation: Physical

- Neurological
- Seizures
  - may be placed on anti-epileptic medication prophylactically
  - team must know how to intervene, if a seizure occurs

## Rehabilitation: Physical

- Sleep disturbances
  - drowsiness, fatigue, inability to fall asleep, inability to wake up in the morning
  - implement set bed times/lights-out times
  - may require pharmaceuticals to assist patient to get into a sleep cycle

## Rehabilitation: Physical

- Neurological: pain
  - persistent headaches
  - surgical site pain (craniotomy or other surgical sites)
  - chronic pain
  - light or noise sensitivity

## Rehabilitation: Physical

- Neurological: pain
  - persistent headaches
  - surgical site pain (craniotomy or other surgical sites)
  - chronic pain
  - light or noise sensitivity
    - may need to be assessed utilizing alternative pain scale such as a face, legs, activity, cry, and consolability (FLACC) score, if patient is unable to give a numeric pain score

## Rehabilitation: Physical

- Musculoskeletal
  - spasticity
    - splints, casts, serial castings, stretches, orthoses
    - botulinum neurotoxin therapy
    - oral anti-spasticity medication
    - electrical stimulation and functional electrical stimulation

## Rehabilitation: Physical

- Physical problems
  - vision disturbances (e.g., double vision)
  - problems managing bodily functions (e.g., blood pressure, temperature regulation)
  - weakness on one or both sides of the body

## Rehabilitation: Physical

- Physical problems
  - increased clumsiness
  - dizziness, balance problems
  - numbness and/or tingling
  - loss of smell and/or taste

## Rehabilitation: Physical

- Communication deficits
  - may be unable to communicate
    - may need to provide communication board/book

## Rehabilitation: Physical

- Gastrointestinal/genitourinary
  - swallow deficits
  - slowed gastrointestinal (G/I) emptying
  - incontinence of bowel
  - incontinence of bladder

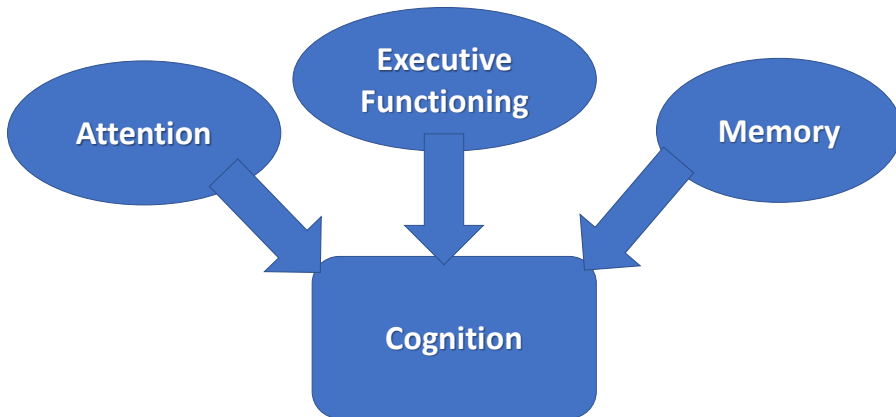
## Rehabilitation: Physical

- Diet
  - low sugar
  - low salt
  - low or no caffeine
  - no alcohol

## Rehabilitation: Physical

- Skin
- At risk for pressure Injuries due to immobility and decreased sensation
  - must have regular skin checks
  - must turn regularly (2 hours), if unable to do so themselves

## Rehabilitation: Cognitive



## Cognition: Executive Functions

- Self-monitoring
- Organization
- Planning
- Time management
- Environmental feedback
- Judgement
- Reasoning
- Behavioral regulation

## Cognition: Executive Functions

- Interventions:
  - problem solving
  - education and reinforcement
  - scheduling/planning
  - sequencing cues
  - modeling behaviors and reinforcing positive behaviors
  - assist with reasoning and judgement

## Cognition: Attention

- Very selective attention
- Unable to focus
- Very easily distracted
- Leads to agitation

## Cognition: Attention

- Interventions:
  - redirect
  - decrease distractions
  - low stimulation environment
  - provide structure
  - positive reinforcement for good attention
  - sleep hygiene

## Cognition: Memory

- 2 Types of memory:
  - declarative (explicit)
  - material (specific)
    - verbal and non-verbal
    - motor learning skills

## Cognition: Memory

- 2 Types of memory:
  - declarative (explicit)
    - prospective (remembering to do things at a certain time)
    - episodic- snapshot memory
    - semantic- facts, names of things, and places

## Cognition: Memory

- 2 Types of memory:
  - non-declarative (implicit)
    - “how to” habits
    - procedural (riding a bike, tying your shoes)
    - cued recall - classic conditioning or priming

## Cognition: Memory

- Interventions
  - picture cards
  - date/time orientation
  - prompts/pictures and memory cards, if needed
  - journals/logs
  - play games that require concentration and planning (connect 4, card games)

## Rehabilitation: Behavioral

- Problems with initiation/starting activities
- Deficits in self-awareness
- Loss of abstraction abilities
- Problems with stopping socially unacceptable behaviors
- Sexually inappropriate behaviors
- Perseveration

## Rehabilitation: Behavioral

- Mood swings/depression/crying
- Aggression
- Hyperactivity
- Elopement
- Impulsiveness

## Behavioral Interventions

- Cognitive behavioral therapy
- Music therapy

## Behavior Interventions (COPING)

- Control - understand that patients display behaviors when they feel a loss of control
- Orient - orient the patient to the facts
- Patterns - identify patterns of behaviors (triggers, time of day, medications, etc.)

## Behavior Interventions (COPING)

- Investigate - what are the alternative behaviors that we want the patient to display
- Negotiate - a behavior and incentive plan (incorporate patient, family, and friends)
- Give back - the power and control to the patient

## Behavior Modification Plan (BEST TEAM)

- What behaviors do we want to change? (specifically)
- Earmark alternative behaviors and behaviors we want to reinforce and reward
- Script exactly what you want the staff to do, say, and how you want the staff to behave when bad and good behaviors occur
- Types and timing that rewards and reinforcement will be given

## Behavior Modification Plan (BEST TEAM)

- Teach the patient what good behavior looks like by the modeling
- Everyone must follow the plan to be effective
- Avoid punishment - but withdraw attention for bad behavior
- Meet and modify the plan as the patient improves

## Behavior and Strategy

- Rude, selfish, childlike behaviors
- Peer and professional criticism and approval/praise positive behaviors/model appropriate behaviors

## Behavior and Strategy

- Inability to control emotions
- Focus on progress made, remain calm, give suggestions for getting in control, don't discuss preinjury state

## Behavior and Strategy

- Temper outbursts, impatient, becomes irritable, yelling, uses obscenities, physically aggressive, self-injurious behaviors
- Redirect from the cause of frustration, get their attention, present alternative, help guide them. Review consequences of their behavior. Praise them only after they get into control. Don't leave them alone, but keep yourself safe.

## Behavior and Strategy

- Sexually inappropriate
- Let them know their actions are inappropriate and you feel uncomfortable (give suggestions for appropriate behavior)

## Behavior and Strategy

- Temper outbursts
- Impatient, becomes irritable, yelling, uses obscenities, physically aggressive, self-injurious behaviors
- Redirect from cause of frustration, get their attention, present alternative, help guide them
- Review consequences of their behavior. Praise them only after they get into control
- Don't leave them alone but keep yourself safe

## Behavioral Therapy

- Relaxation techniques
- Music therapy
- Anger management skills
- Avoid allowing negative reinforcement to work

## Behavioral Pharmacological Interventions

- Beta-blockers - shown to be helpful for moderate aggression/agitation
- Anxiety and depression

## Vocational Rehabilitation

- Assess patient's potential and/or goals for returning to employment
  - seek assistance from vocational rehabilitation programs for job retraining
  - may need more assessments such as driving tests

## Conclusion

- TBIs are variable and can be difficult to treat due to
  - extent of injury
  - location of injury
  - length of time since the injury
  - comorbidities associated with the injuries

## Conclusion

- Due to the extent of traumatic brain injuries in the US, more and more nursing staff must know how to care for a TBI and what the rehabilitation process looks like with a brain injury patient

## References

- Center for Disease Control and Prevention. (2020, March 16). Heads up. Centers for Disease Control and Prevention. <https://www.cdc.gov/headsup/index.html>
- Guide Central. (n.d.). Traumatic brain injury medical treatment guidelines clinical practice guidelines. Guideline Central. <https://www.guidelinecentral.com/summaries/traumatic-brain-injury-medical-treatment-guidelines/#section-date>
- Lehman, C. (2015). The specialty practice of rehabilitation nursing: A core curriculum (7th ed.).

## References

- Ontario Neurotrauma Foundation. (n.d.). Clinical Practice Guideline For the rehabilitation of Adults with Moderate to Severe TBI. Brain Injury Guidelines - Ontario Neurotrauma Foundation (ONF). <https://braininjuryguidelines.org/modtosevere/>
- Scottish Intercollegiate Guidelines Network (SIGN). (n.d.). Brain injury rehabilitation in adults A national clinical guideline. <https://www.sign.ac.uk/assets/sign130.pdf>



## Traumatic Brain Injury: A Nursing Guide for Rehabilitation Part 2 Kim Schober, RN, MSN, CRRN

If you have any questions about the program you have just watched, you may contact us at:

(800) 424-4888 or [Health.eduCSRequests@ttuhsc.edu](mailto:Health.eduCSRequests@ttuhsc.edu)

Direct your inquiries to Customer Service. Be sure to include the program title and speaker.

This information is intended for the private use of Health.edu subscribers. Any redistribution of this information without the express written permission of Health.edu is prohibited.

[www.ttuhsc.edu/health.edu](http://www.ttuhsc.edu/health.edu)

Copyright 2022



This information is intended for the private use of Health.edu subscribers.  
Any redistribution of this information without the express written permission of  
Health.edu is prohibited.

800-424-4888|[www.ttuhsc.edu/health.edu](http://www.ttuhsc.edu/health.edu)

Copyright 2022