

COURSE SYLLABUS TRAUMATIC BRAIN INJURY: FROM COMA TO INDEPENDENCE

Winter: Jan. 16 to Mar. 27, 2025
On-demand Course



CONTINUING EDUCATION CREDITS

Course: 16 contact hours (self-study)

LOCATION

This course is taught virtually using the Academy Learning Portal. Other online learning materials may also be utilized.

FACILITATOR

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COURSE DESCRIPTION

This interprofessional online course will follow the path of recovery for a patient with a severe Traumatic Brain Injury (TBI). Esteemed faculty will lead participants through the different stages, starting from disorders of consciousness (DOC) (Rancho Los Amigos I-III) and then into the challenging Rancho IV population where behavior and agitation/aggression is often seen. Physicians, clinicians and nurses will provide a strong foundation of knowledge, as well as practical suggestions and applications. The course will explore various recovery periods, including confusion, Post Traumatic Amnesia (PTA) and increasing awareness and independence. Participants will also explore the pediatric aspect of interprofessional evaluation, intervention and education across a range of ages. Integral therapeutic processes such as self-regulation, return to meaningful activity and facilitation, will be addressed. Finally, the course will delve into the topic of ethics and decision-making, concluding with a discussion on how to handle these critical aspects of patient care. By the end of the course, you will have a deep understanding of the TBI recovery process, along with practical skills and knowledge to help patients at different stages of recovery.

SUCCESSFUL COMPLETION:

Participants will complete 16 hours (17 hours for Nursing) of asynchronous self-study activities including video lectures and discussions, readings, questions, scoring video clips and a case study. This program has been designed to allow the learner to progress at their own pace. It is recommended that each session be completed within one week. The required assignments will be available during the 11 weeks that the course content is available. Learners will be required to complete the entire course satisfactorily by Thursday, March 27, 2025.

LEARNER OUTCOMES:

Upon completion of this course, participants will be able to:

- Define coma, the vegetative state and the minimally conscious state
- Utilize the Agitated Behavior Scale (ABS) to rate a patient's level of agitation and use it as a communication tool
- Describe an interdisciplinary team approach to behavior management to facilitate the participation of the patient with agitated-like behaviors in a rehabilitation setting
- Develop an interdisciplinary plan of care for patients in the Rancho V, VI, VII stages of TBI recovery
- Identify common cognitive problems associated with Ranchos Level VIII to X following TBI
- Analyze the impact of a TBI on a pediatric patient
- Describe how the use of Goal Attainment Scaling promotes goal achievement and the development of self-regulation after brain injury

- Apply knowledge of differences in clients with TBI and family caregiver perspectives, clinical biases and ethical dilemmas when discussing real-world safety risk case studies

OFFICE HOURS

Office Hours (Optional): Tuesday, March 4, 2025

5:00-6:00pm CT

ONLINE INTRODUCTION TO THE COURSE AVAILABLE JANUARY 16, 2025

1. Describe course logistics
2. Discuss course expectations for interacting in a collegial learning environment

SESSION ONE INTRODUCTION TO TRAUMATIC BRAIN INJURY DR. DEENA HASSABALLA & LINDSAY HONG, MS, RN, CRRN

Description:

This introductory module for this course will discuss the anatomy and physiology of the brain. It will detail the different types of injuries and how the location of those injuries plays a role in the patient presentation. The module will discuss ways to describe the severity of the injury and explain levels of recovery. Tools used to qualify and quantify injury and recovery, such as the Rancho Los Amigos Recovery Scale will be reviewed as well.

Objectives:

1. Summarize foundational material related to Traumatic Brain Injury (TBI)
2. Explain different types of brain injuries
3. Describe how the location of the injury may predict patient presentation

To Do:

- View 90-minute video
- Complete feedback survey

SESSION TWO DISORDERS OF CONSCIOUSNESS: THE FUTURE OF REHABILITATION CARE JOHN WHYTE, MD, PHD

Description of Week:

Prolonged disorders of consciousness (DOC) have been viewed as hopeless, and patients with DOC receive restricted access to intensive rehabilitation services, potentially leading to a self-fulfilling prophecy. Recent research has demonstrated functional recovery over multi-year periods for a substantial minority of individuals with DOC, resulting in an updated evidence-based guideline that supports greater access to expert care. In parallel, published guidance is now available regarding the structure and processes needed by rehabilitation facilities serving this population. This presentation will discuss common mechanisms of impaired consciousness, long-term outcome and prognosis, patient assessment and clinical priorities of rehabilitation

management. In addition, promising directions of research that have not yet reached clinical implementation will be reviewed.

Objectives:

1. Define coma, the vegetative state and the minimally conscious state
2. Identify two complementary methods of patient assessment
3. Describe one of the new practice guideline recommendations related to DOC
4. Identify one emerging technology that may enhance patient assessment or treatment

Article:

Whyte J, Bergin MJG, Giacino JT: Disorders of Consciousness. In Silver JM, McAllister TW, Arciniegas DB (Eds.) Textbook of Traumatic Brain Injury (3rd Ed.; pp. 201-216). Washington, DC, American Psychiatric Association Publishing, 2019

To Do:

- Read chapter and answer corresponding questions
(all found in Academy Learning Portal –session two & additional references)
 - View 84-minute video (in 4 parts)
 - Complete feedback survey
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SESSION THREE

RANCHO I-III: A CLINICAL PERSPECTIVE

MARY KATE PHILBIN, MS, CCC-SLP & STEFANI CLEAVER, PT, DPT

Description of Week:

As a result of a Severe Traumatic Brain Injury (TBI), patients often are initially in a Disordered State of Consciousness. Comprised of three categorical and behavior-specific components, patients may present in a Coma, Vegetative State or Minimally Conscious State during their acute hospital stay or early rehabilitation days. Emerging evidence-based practices are directing a clinician’s ability to assess a patient and determine their level of disordered consciousness, aid in setting appropriate treatment plans and family goals for those with these severe impairments.

Objectives:

1. Summarize evidence-based tools for assessing patients in a disordered state of consciousness
2. Classify patients level of disordered state of consciousness by demonstrated behaviors
3. Describe appropriate treatment plans for an individual at varying levels of disordered states of consciousness
4. Express important components of family education

To Do:

- View 88-minute video (in six parts)
 - complete feedback survey
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SESSION FOUR: RANCHO IV: AGITATION MANAGEMENT IN TBI SHERYL KATTA-CHARLES, MD

Description of Week:

Post-traumatic agitation is a delirium-state occurring during post-traumatic amnesia, characterized by excessive behaviors, including some combination of aggression, akathisia, disinhibition, and emotional lability. A large percentage of individuals with moderate to severe acquired brain injury go through this state. Without proper management, the neurobehavioral sequelae can endanger the patient and caregivers, can be a source of disability and can be associated with prolonged inpatient rehabilitation stay. During this presentation, we will review the neurobiology of agitated behavior, risk factors for agitated behavior, and pharmacological management of post-traumatic agitation.

Objectives:

1. Describe the relationship between post-traumatic agitation and cognitive dysfunction
2. Discuss the quantity and quality of post-traumatic agitation
3. Explain risk factors for post-traumatic Agitation
4. Summarize the role of various drug classes in the treatment of post-traumatic agitation

To Do:

- View 80-minute video (in four parts)
 - Take quiz (found in session four)
 - Complete feedback survey
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SESSION FIVE IT TAKES A VILLAGE: AN INTERDISCIPLINARY APPROACH FOR CLINICAL MANAGEMENT OF BEHAVIORS AMANDA MURRAY, BS, RN, CRRN & KAITLIN REILLY, PT, DPT

Description of Week:

After sustaining a Traumatic Brain Injury (TBI), numerous behaviors may be demonstrated and experienced. Among this sequela include agitation and other negatively associated behaviors such as restlessness, physical aggression and constant verbal outbursts. Specifically, those negative behaviors pose challenges that directly impact the necessary treatment and care required to optimize recovery. Negative behaviors can be potentially dangerous to manage and impact the safety and well-being of staff, and support systems often lead to increased feelings of stress and fear. This module outlines how to recognize, define and quantify these negative behaviors in those diagnosed with a brain injury. It will provide a variety of strategies, such as environmental modifications, adherence to schedule and behavioral approaches to allow for optimal participation in the rehabilitation setting. Lastly, it highlights the importance of an interdisciplinary approach in the communication, carryover and education to others for optimal engagement in order to progress interventions and maintain safety. Case studies and examples will allow course participants to apply principles learned.

Objectives:

1. Explain and differentiate the characteristics of patients classified as Rancho IV and Rancho V, as it relates to the word "agitation"
2. Recognize agitation and other negatively harmful behaviors, and identify patterns and triggers in those diagnosed with a TBI
3. Utilize the Agitated Behavior Scale (ABS) to rate level of agitation and apply it as a communication tool
4. Discuss ways to reduce unnecessary escalation and maximize safety
5. Describe an Interdisciplinary Team approach to behavior management to facilitate participation of the patient with agitated-like behaviors in a rehabilitation setting

To Do:

- View 96-minute of video (in five parts)
 - View video clips of agitated patients and score utilizing the Agitated Behavior Scale (ABS)
 - Complete ABS scoring exercise (Full instructions can be found in the online materials for the course)
 - Complete feedback survey
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SESSION SIX

RANCHO V, VI, VII: EMERGENCE FROM CONFUSION & AGITATED STATES OF TRAUMATIC BRAIN INJURY

KYLE FAULKNER, OTR/L &

ANTONETTE MARIE A. SANCHEZ, MSN, RN, CRRN CNE

Description of Week:

This module outlines the characteristics of Rancho Stages V, VI and VII as well as suggests evidence-based intervention strategies. After the confused and agitated state of Traumatic Brain Injury recovery, individuals can progress through phases characterized by varying levels of confusion, inappropriate behavior and eventual emergence from Post-traumatic Amnesia. More automatic, appropriate and overlearned behaviors develop, such as participating in aspects of self-care without help. Yet, cognitive-behavioral impairments are not outwardly recognizable due to underlying deficits in memory, attention, emotional regulation and problem-solving. Frequently, in these phases of recovery, patient's lack insight on the functional impact of impairments, resulting in risk for secondary injury and further disability.

Objectives:

1. Explain the distinct characteristics of Rancho V, VI, and VII
2. Identify evidence-based strategies to assess for emergence of Post-traumatic Amnesia (PTA)
3. Propose interventions that maximize the safety and independence of confused, non-agitated and newly emerged patients with TBI
4. Develop an interdisciplinary plan of care for patients in the Rancho V, VI and VII stages of TBI recovery

To Do:

- View 91-minute video (in five parts)
 - Complete case study exercise
(All materials and full instructions can be found in the online materials.)
 - Complete feedback survey
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SESSION SEVEN

TRAINING METACOGNITIVE PRACTICES: THE ROLE OF SELF-REGULATION IN RETURN TO PRODUCTIVITY AFTER BRAIN INJURY

KATY H. O'BRIEN, PHD CCC-SLP

Description of Week:

Return to productivity following Traumatic Brain Injury (TBI) remains challenging despite advances in medical and rehabilitative care. As a person moves through higher levels of the Rancho Scale, training in self-management of injury effects is critical. Rehabilitative approaches are discussed to support the return to school, work and community following TBI, including training in self-regulation and measurement of self-regulation outcomes.

Objectives:

1. Identify common cognitive problems associated with Rancho levels VIII to X following brain injury
2. Contrast assessment approaches between lower and higher Rancho levels
3. Summarize therapeutic processes that support the development of self-regulation for people recovering from brain injury
4. Describe how the use of Goal Attainment Scaling promotes goal achievement and the development of self-regulation after brain injury

Article:

O'Brien, K. H., Schellinger, S. K., & Kennedy, M. R. T. (2018). Self-regulation strategies used by students with brain injury while transitioning to college. *NeuroRehabilitation*, 42(3), 365–375. <http://doi.org/10.3233/NRE-172413>

To Do:

- Read article and answer questions on article (All found in online materials for the course.)
- View 88-minute video (in five parts)
- Complete feedback survey

SESSION EIGHT

THE SILENT IMPACT OF PEDIATRIC TBI: ASSESSMENT, INTERVENTION & EDUCATION

JORDAN HUFFMAN, OTR/L, MARLEY OWEN, PT, DPT &
REBECCA WRIGHT, MA, CCC-SLP

Description of Week:

The pediatric world of Traumatic Brain Injury (TBI) is a stark contrast to the adult world. This is mainly due to the developing brain of the pediatric patient and the overall functional impact a TBI can present throughout the child's life, as deficits may not be apparent immediately following an injury. An interprofessional approach from the acute to the chronic phase of a pediatric TBI is crucial to identify the pathological difference between a pediatric vs. adult TBI to ensure patients and their families can return to school, play and meaningful social interaction. Preparing the pediatric patient and their families with ongoing education, strategies and tools for success to continually succeed and develop as they age through their lives is a necessary component of the rehabilitation process.

Objectives:

1. Identify differences between a pediatric and adult Traumatic Brain Injury (TBI)
2. Demonstrate awareness of age-appropriate assessments and interventions for a pediatric patient with a TBI

3. Discuss, via case studies, how an interprofessional team approach can determine improved outcomes for a pediatric patient with a TBI at specified age ranges and stages of recovery
4. Summarize age-appropriate education to provide to the pediatric patient with a TBI and pertinent education and support to provide to their families and caregivers

To Do:

- View 88-minute video (in 5 parts)
 - Complete feedback survey
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SESSION NINE

CLINICAL & ETHICAL DECISION-MAKING

SAFETY RISK ASSESSMENT FOLLOWING TRAUMATIC BRAIN INJURY

RONALD T. SEEL, PHD, FACRM

Description of Week:

Self-managing safety risk following Traumatic Brain Injury (TBI) is challenging. Client difficulties with cognition, mobility, self-awareness and/or self-regulation, as well as environmental risks, can affect individuals' ability to perform activities and learn safety strategies. Clients are at increased risk of death, re-hospitalization and loss of independence, which often leads to anxiety, frustration, loss of confidence, depression and diminished life quality. Maximizing independence while reducing safety risk is the holy grail of rehabilitation, home and community-based TBI services. Balancing clients' with TBI supervisory needs, independent return to activities and safety is complicated. Families often rely on rehabilitation providers determination of supervision needs. Short stays may not allow providers to adequately assess safety on all instrumental activities of daily living (IADLs) and they often opt for recommending high levels of supervision and activity restrictions, which may unnecessarily limit clients' autonomy. Families sometimes follow providers supervision recommendations to the letter and may not know how or when to help survivors independently and safely engage in IADLs. Conversely, in some cases, families have limited support or need to return to work, and allow TBI survivors to be on their own despite being at a safety risk. This interactive seminar will provide an overview of safety risk assessment following severe TBI. Elements of safety risk assessment will be reviewed including biopsychosocial context; client with TBI capacity, values and preferences; potential risks and harm to self and others; family caregiver and clinician values, preferences and biases; assessment strategies and approaches; competing ethical principles, e.g., autonomy versus beneficence; practical considerations; and validating assessments. Interactive discussion of case studies will allow participants to apply educational content in real world situations with clinical and ethical dilemmas.

Objectives:

1. Articulate similarities and differences in clients with Traumatic Brain Injury (TBI) and family caregiver concerns, values, preferences and biases
2. Identify potential clinician biases when assessing safety risk
3. Define ethical constructs of autonomy, nonmaleficence, beneficence, respect, justice and confidentiality
4. Apply knowledge of differences in clients with TBI and family caregiver perspectives, clinical biases and ethical dilemmas when discussing real-world, safety risk case studies.

To Do:

- View 84-minute video (in four parts)
 - Complete feedback survey
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COURSE WRAP-UP:

After the last session, a post-course evaluation will be made available in the learning portal. Completion of the evaluation is a requirement of successful course completion. This evaluation and all course-related modules must be completed by Thursday, March 27, 2024.

FEEDBACK

Each session will feature an opportunity for feedback immediately upon completion. Please fill out this information that explicitly asks:

- How effectively did the presenter communicate?
- What went well?
- What could have been better?
- What other details would you like to provide feedback on from this course module?

Upon conclusion of the entire course, we will ask for your feedback as well regarding the course as a whole. Thank you for reflecting on the course as you work through the educational experience.

ACCESSIBILITY

Please contact the Academy if you require special accommodations for this course.