Traumatic Brain Injury and Concussions

An Advanced Vestibular - Balance Course

Presented by Karen Skop, PT, DPT

PT, OT, PTA, and AT Continuing Education Course

Day One

7:30  8:00 Registration
8:00  9:30 Is This a Concussion or TBI?
• Mechanisms for Injury-blast/blunt trauma
• Co-morbidities that may impact care-PTSD, sleep, cognitive, migraine, pain, polypharmacy
• Literature update-concussions, management, neurophysiological/metabolic changes and impact on the brain
9:30  10:00 Anatomy and Physiology(Lecture)
• Review of CNS, CN, postural control reflexes, multiple sensory system impairments
10:00 10:15 Break
10:15 11:30 A Team Approach: Is it the Eyes, Ears, Neck or Brain? (Lecture)
• Eye movements what to look for and when to refer to a specialist
• Audiolological testing- Interpretation from a rehab therapists perspective
• Whiplash associated disorders-association with neck pain, headaches and dizziness after head injury
• Multisensory & psychological considerations-prioritizing treatments
11:30 12:00 Why Am I Dizzy? (Lecture/Demo)
• Key questions for differential diagnosis
• Group case study demonstrating importance of an accurate subjective exam-video analysis and discussion
12:00 1:00 Lunch (on your own)
1:00  3:45 Examination/Assessment Tools (Lecture/Lab)
• Basic and advanced exam skills including detailed assessment of visual, vestibular system differential diagnosis of central versus peripheral pathologies (CN assessment, ocular misalignments, frenzel exam, aVOR, gaze stabilization, BPPV, balance testing, CTSIB, exertional testing)
• Guided lab and hands on testing including video analysis
3:45  4:00 Break
4:00  5:15 Is There a Problem with the Neck? (Lecture/Lab)
• Cervicogenic dizziness
• Literature update-Lecture, lab skills acquisition
• Cervical assessments-proprioception, orthopedic tests, head/neck differentiation, cervical flexion tests, neck torsion tests (guided-lab)

Day One (continued)

5:15  6:15 Case Studies and Clinical Interpretation (Lecture/Lab)
• Guided analysis and interpretation of subjective and objective data
• Utilization of ICF model and EBM
• Case studies to include: complex clinical presentation of multimodal pathologies following head trauma-single or multiple events
6:15  6:30 Wrap Up/Summary/Questions

Day Two

8:00  9:00 Return to Play (Lecture/Lab)
• Learn current guidelines and ACSM/AAN recommendations
• Application and exercise prescription
9:00 10:15 Differential Diagnosis and Exercise Prescription (Lec/Lab)
• Exercise paradigms rationale behind adaptation, substitution, habituation, vision rehabilitation
• Exercise prescription
• Management of co-morbidities during rehab
10:15 10:30 Break
10:30 12:00 Cervicogenic Problems (Lecture/Lab)
• Whiplash associated dizziness
• Proprioception and kinesthetic training
• Intrinsic muscle strengthening
• Mobilization for headaches
• Cervical dysymmetry
12:00 12:45 Lunch (on your own)
12:45 2:30 Management of Central/Peripheral Pathologies (Lecture/Lab)
• Differential diagnosis-building an appropriate treatment plan from prior case studies
• Apply exercise prescription
• Prioritizing interventions
2:30  3:00 Clinical Tools and Clinical Integration
• Do it yourself sans technology
• There is an APP for that
• Wrap Up Questions
Upon completion of this course, participants will be able to:

• Describe the core features and overlap of symptoms from mild traumatic brain injury to post concussion syndrome sequelae that may arise following a concussion or mild traumatic brain injury (mTBI). The emphasis of the course will be placed on knowledge of both neurological and orthopedic and interventional pain management to effectively manage these clients, and the importance of a multidisciplinary team approach.

• The primary physical symptoms following a mTBI are dizziness, balance complaints, headaches, and oculomotor dysfunctions. This course is designed to aid in the identification of these physical symptoms. We will also emphasize how the knowledge of the vestibular system, and effective pathophysiology management, is paramount to the success of your treatment. The participant will learn common diagnosis’s following a concussion, expected recovery, outcomes and prognosis.

• We will cover a variety of pathologies including diffuse axonal injury, skull fractures, complex cases of BPPV, vestibular loss, cranial nerve damage, fistulas, traumatic Meniere’s, whiplash, motion intolerance, exercise induced dizziness and balance dysfunctions. We will discuss current ‘return to play’ guidelines, their limitations and how balance plays an important role.

• Complex case studies will be introduced so that participants will learn to systematically approach the examination, establish a working diagnosis and develop treatment plan and finally exercise prescription. Case studies will include several videos examples, focusing on key features to aid in interpretation of eye movement patterns and developing differential diagnosis from skills learned during lab.

This course is organized to build in complexity, through case presentations, guided lab lectures and discussions to allow the learner to have a thorough understanding of how to manage this population without getting overwhelmed! Throughout the course evidence based practice is emphasized. Participants will be able to develop clear, concise treatment regimen, learn how to educate patient, families and coaches on when is the best time to ‘return to play’. Finally, participants will learn what is known in the literature, what is not known and how you as a health care provider can play a prominent role.

Why You Should Attend This Course

This course is a two-day, advanced seminar focusing on effective identification and management of the physical symptom sequelae that may arise following a concussion or mild traumatic brain injury (mTBI). The emphasis of the course will be placed on knowledge of both neurological and orthopedic/neurology rehabilitation to effectively manage these clients, and the importance of a multidisciplinary team approach.

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