Vestibular Rehabilitation and Concussion Certification Workshop

Course Director: Richard E. Gans, Ph.D.

Faculty:
Kim Rutherford, PT, DSc., COMT, Joseph Sakumura, Au.D.,
Steven Spinks, PT, DPT, OCS, COMT, FAAOMPT, Brittany Fauble, Au.D.,
*Faculty may vary based on availability and location

Day 1 8:00 am – 6:00 pm

Morning Session: 8:00 am – 12:00 pm (Break 10:00 - 10:15 am)

- Welcome and Introduction
- Statement of need and demographics
- Anatomy and Physiology of the Vestibular System
  - Peripheral
  - Central
- Understanding sensory integration of equilibrium
  - Eye Movements
    - Pendular Pursuit
    - Saccades
    - Optokinetic
    - Vergence
    - Corrective Saccades
    - Nystagmus
  - Vestibular Reflex systems
    - Vestibulo-ocular (VOR)
    - Vestibulo-colic reflex (VCR)
    - Vestibulo-spinal reflex (VSR)
- Central Vestibular Compensation

Lunch 12 – 1 pm (on your own)

Afternoon Session: 1:00 – 6:00 pm  (Break 3:15 – 3:30 pm)

- Common disorders affecting vestibular function
  - Benign Paroxysmal Positional Vertigo (BPPV)
  - Migraine
  - Psychological Considerations
  - Otologic
  - Trauma
  - Toxicity
  - Neurologic
  - Rheumatology/Autoimmune
  - Cervical
  - Other
- Concussion
  - Prevalence of sports-related concussions and the societal impact
  - Berlin Consensus Statement on Concussion in Sport
  - Most common symptoms post concussion
  - Structural vs. Metabolic Damage
  - Chemical Cascade
  - Chronic Traumatic Encephalopathy (CTE)
  - Labyrinthine Concussion
- Psychosocial aspects of mTBI
  - Pre-morbid psych issues
  - Personality changes
    - Emotional responses
    - Inappropriate, embarrassing, impulsive behaviors
    - Angry outbursts & irritability
  - Anxiety
  - Depression
  - PTSD
  - Sleep problems
  - Alcohol use & TBI
  - Supplemental interventions
  - Cognitive/Fatigue
    - Attention and Concentration
    - Information Processing Problems
    - Language and Communication
    - Planning and Organizing
    - Cognitive Fatigue and Rehabilitation

**Day 2  8:00 am – 6:00 pm**

**Morning Session: 8:00 am – 12:00 pm  (Break 10:00 - 10:15 am)**

- Evaluation & assessment protocols (Vestibular)
  - Stabilized vs. non-stabilized
  - Compensated vs. non-compensated
  - Goals and plan of care
  - ICD-10 and CPT codes
  - Interview
    - Pertinent medical history and symptoms
    - Selecting appropriate evaluation tools
  - Clinimetrics
  - Outcome Measures
  - Postural Stability
    - Gans Sensory Organization Performance (SOP) Test
  - Oculomotor & VOR
    - Gaze evoked nystagmus
    - Head Thrust Test/Head Impulse Test (HIT)
    - Dynamic Visual Acuity (DVA)
    - Post-Headshake Nystagmus
    - Optokinetic Test
    - Motion Sensitivity Index

**Lunch 12 – 1 pm (on your own)**
Afternoon Session: 1:00 – 6:00 pm  (Break 3:15 – 3:30 pm)

- Evaluation & assessment protocols (Vestibular, cont)
  - Benign Paroxysmal Positional Vertigo (BPPV)
    - Posterior Canal BPPV Treatment Outcomes
    - Importance of Vertebral Artery Screening Test (VAST) prior to BPPV evaluation
    - Techniques to elicit BPPV symptoms
    - Demonstration of Canalith Repositioning Maneuvers (CRMs)
    - Manual practice hands-on – CRMs
      - Posterior/Anterior Canal
        - Modified Canalith Repositioning Maneuvers (CRM Epley/Herdman)
        - Semont Liberatory Maneuver (SLM)
        - Gans Repositioning Maneuver (GRM)
      - Horizontal Canal
        - Appiani
        - Casani
        - Horizontal Hybrid Maneuver
      - Anterior Canal
    - CRM Treatment Considerations
      - Restrictions post BPPV treatment
      - Complications of treatment

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Day 3  8:00 am – 6:00 pm

Morning Session: 8:00 am – 12:00 pm  (Break 10:00 - 10:15 am)

- Evaluation & assessment protocols
  - Cervicogenic Dizziness
    - Incidence and Prevalence
    - Subjective History
    - Cervical Dizziness Screening Test
    - Objective Examination
    - Upper Cervical Instability (UCI)
      - Sharp-Purser Test
      - Alar Ligament Stress Test
      - Transverse Ligament Test
    - Cervical Dizziness
    - Cervical Proprioception Testing
    - Joint Position Sense
    - Lab
  - Cortical Assessment
    - BESS Test
    - King-Devick Test
    - SCAT 5
    - Neurocognitive Testing and Baseline Testing
    - VOMS
    - Skew Deviation Test
    - Post Concussion Symptom Scale (PCSS)
    - Aerobic exercise and brain function
    - Buffalo Concussion Treadmill Test
Lunch 12 – 1 pm (on your own)

Afternoon Session: 1:00 – 6:00 pm  (Break 3:15 – 3:30 pm)

- Concussion Management
  - The Role of Vestibular Rehabilitation Therapy in Concussion Patients
  - Evidence-based Clinical Pathways: Using VRT protocols and creating patient-centered therapy
    - Identification of functional impairment by categories
      - Oscillopsia
      - Vestibular Recruitment
      - Vestibular visual integration-vision/surface dependence
  - Building and implementing Concussion protocols
    - Understanding the dynamics of cognitive load vs. vestibular central compensation, differentiation of protocols
    - Scoring the AIB Vestibular Cognitive Integration Protocols (AIB-VCI)
    - Manual Practice
- Return to Activity, Return to Play, & Return to School Strategies
  - Recovery & the Role of Rest
  - Special Considerations
  - The Future
    - Sport Rule Changes
    - Legal Considerations
- Summary and Concluding Remarks

Syllabus timeline is for general purposes only. Depending on interest of the class, depth of discussions, questions, demonstrations, and hands-on, timeline may be adjusted. All content, however, will be covered.