Vestibular Rehabilitation and Concussion Certification Workshop

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*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-collic 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
Concussion Cascade
- Chronic Traumatic Encephalopathy (CTE)
- Labyrinthine Concussion

- Psychosocial aspects of mTBI
  - Pre-morbid psych issues
  - Cognitive problems
  - Personality changes
    - Emotional responses
    - Inappropriate, embarrassing, impulsive behaviors
    - Angry outbursts & irritability
  - Anxiety
  - Depression
  - PTSD
  - Sleep problems
  - Alcohol use & TBI
  - Supplemental interventions

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

- Psychosocial aspects of mTBI (continued)
- Evaluation & assessment protocols
  - 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
  - Post Concussion Symptom Scale (PCSS)
  - Outcome Measures
  - Postural Stability
    - Balance Error Scoring System (BESS)
    - Single Leg Stance
    - Sway Balance
    - Gans Sensory Organization Performance (SOP) Test
  - Oculomotor & VOR
    - Gaze evoked nystagmus
    - Vestibular/Ocular-Motor Screening (VOMS)
    - Skew Deviation Test
    - 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
  o 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
        o Modified Canalith Repositioning Maneuvers (CRM Epley/Herdman)
        o Semont Liberatory Maneuver (SLM)
        o Gans Repositioning Maneuver (GRM)
      • Horizontal Canal
        o Appiani
        o Casani
        o Horizontal Hybrid Maneuver
    ▪ CRM Treatment Considerations
      • Restrictions post BPPV treatment
      • Complications of treatment

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

• Evaluation & assessment protocols
  o 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
  o Cortical Assessment
    ▪ Baseline Testing
    ▪ SCAT 5
    ▪ King-Devick Test
    ▪ Aerobic exercise and brain function
    ▪ Buffalo Concussion Treadmill Test
    ▪ Defense Automated Neurobehavioral Assessment (DANA)
    ▪ Top-down vs. bottom-up processing
    ▪ Stroop task
    ▪ Task of executive control (TEC)

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

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