Title: Sensorimotor Dysfunction Associated With Cervicogenic Dizziness
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Course Description:
The patient with a primary complaint of dizziness presents challenges related to determining the source of the dizziness. This course will emphasize the cervical spine components that may cause or contribute to the symptom of dizziness and how to differentiate those cervical components from vestibular components. We will also discuss a multimodal treatment approach to patient management of cervicogenic dizziness that includes manual physical therapy, exercise, cervical proprioceptive training and occulomotor training. The course will have both lecture and lab components.

Course Learning Objectives
1. To understand how the cervical spine structures participate in sensorimotor function and therefore contribute to postural control
2. To describe changes in the sensorimotor system with cervical disorders that can lead to symptom of dizziness
3. To perform examination tests for cervical joint position error, occulomotor function, and postural control that should be included for patients with cervicogenic dizziness
4. To assess upper cervical spine mobility and muscle length
5. To describe interventions what will address the sensorimotor deficits and cervical hypomobility

Tentative Outline of time and content:
The first 45 minutes will be a lecture including:

- An overview of the systems involved in postural control
- The unique role of the cervical somatosensory system and its influence on the occulomotor system and vestibular system
- Changes in the somatosensory system with cervical spine disorders and subsequent influence on postural control
- Description of clinical examination including testing of the deep neck flexors (DNF) and extensors (DNE), joint position error (JPE) of the cervical spine, and occulomotor function
- Description of interventions including manual physical therapy, DNF and DNE training, JPE training, occulomotor training, balance training and task-based practice

There will be a 10 minute break and set up for lab based practice of the following skills:

Examination Techniques (1 hour):
- Upper cervical joint play
- Length testing of sub-occipital extensors
- Activation/ Endurance of DNF and DNE
- Joint position testing of the cervical spine
- Occulomotor testing

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Intervention Techniques (1 hour):

- Posterior occipital glide mobilization technique
- Manual stretching for the sub-occipital extensors
- Joint position training for the cervical spine
- Oculomotor training
- Balance training
- Ideas for task based practice

Key References: Minimum of 5 current references (less than 5 years old):