

Module II

Differential Diagnosis and Treatment of the Cervical Spine

Format: 3 day onsite lecture/lab, 6 week online learning module including discussion board, videos of technique, power point presentations on relevant topics , course manual, and descriptive anatomy text.

Moderators: Jim Meadows BSCPT, MCPA, FCMT, lecturer; moderator; Gail Molloy PT, OCS, COMT Moderator/Lecturer, Fred Stoot PT, COMT, MCPA , Scott Gallant, PT, FAAOMPT

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Grading: Module testing will be conducted through the IMPACT's online learning and testing platform. Completion of the program online testing with a grade >80% is required for passing. Clinical skills practical will be used to evaluate performance and clinical reasoning, Passing is a grade of 70%.

Duration: 8 weeks

Course syllabi, course description, educational objectives, requirements for successful completion, and teaching methods.

Description: This course is designed to prepare the Physical Therapist in advanced differential diagnosis, biomechanical assessment and treatment of the cervical spine. The 6-week online learning will portion will provide a background in descriptive anatomy, pathology, biomechanics, differential diagnosis and selected treatments relevant to the cervical spine. Attention will be given to selected manual therapy interventions, indications and contraindications. The 3-day clinical intensive will focus on clinical evaluation and treatment skill covered in the online module.

Education methods will include: 24 hrs classroom didactic training and lab. 25 additional hours will be required to review power point material, course manual, videos, and descriptive anatomy material. Online testing and clinical skills assessment will also be performed.

Objectives and requirements for completion: On completion of the course the therapist will be able to identify the common condition scripts for cervical spine, pass a clinical skills evaluation, and online test covering the didactic and course manual material with a grade of 80% or better.

Course materials

- Power point presentations.
- Online learning Platform: videos, PPT presentation on biomechanics and treatment.
- Manual: cervical spine course manual
- Discussion board

Onsite intensive: 24 didactic/Lab hours. 25 hrs follow up independent study.

Module 2 Cervical *in class	Topics
Anatomy , biomechanics and pathomechanics <ul style="list-style-type: none"> • Descriptive • Surface* • Applied * 	<ul style="list-style-type: none"> • Craniovertebral • Cervical • Brain stem • Neurovascular supply head, neck and spinal cord
Conditions (incidence/ prevalence, and presentation*	<ul style="list-style-type: none"> • Cervical disc herniation • Lateral stenosis • Central stenosis • Segmental dysfunction • Systemic arthropathies (AKS, RA, reactive arthritis) • Vertebral artery ischemia • Craniovertebral instability <ul style="list-style-type: none"> ○ Down’s ○ Grisel’s ○ Arthropathy • Headache <ul style="list-style-type: none"> ○ Spondylogenic ○ Vertebral artery ○ Migraine ○ Intracranial bleed ○ tension • Dizziness • Neoplastic disease • Radiculopathy • Peripheral neuropathy • Myelopathy • Osteoporosis • TMJ arthritis <ul style="list-style-type: none"> ○ Systemic ○ Traumatic ○ Infective
Clinical reasoning*	<ul style="list-style-type: none"> • Pattern recognition • Hypothetic-deduction • Illness scripts • SFD • Bias correction • DDx, • Diagnosis specific treatment • Prognosis
Assessment techniques	<ul style="list-style-type: none"> • Scan examination

Module 2 Cervical *in class	Topics
Medical diagnostic * Segmental*	<ul style="list-style-type: none"> • Neurophysiological (multifidus, quadrants) • Biomechanical (PPIVMs, position tests, PAIVMs)
Treatment and management techniques*	<ul style="list-style-type: none"> • Specific exercise prescription for above conditions • Mechanical and manual traction • Pain modulation treatments <ul style="list-style-type: none"> ○ Low grade mobilizations ○ Electrical stimulation ○ Exercises ○ Cryo-thermal • Rest • Referral out for medical treatment and investigation • Traction manipulation • Direction specific manipulation • Facet distraction manipulation • Costotransverse distraction manipulation • Stabilization therapy • Movement rehabilitation therapy
Medical management and investigations for above conditions	<ul style="list-style-type: none"> • X-ray • MRI • CAT scan • Radio-uptake scans • Blood work • EEG and nerve conduction studies • EKG

SPECIFIC COURSE OBJECTIVES:

Module II objectives

1. Perform and interpret results of the biomechanical assessment for the cervical spine.
 - a. Interpreting active passive, and resistive testing
 - b. Performing and interpreting Passive physiological motion testing
 - c. Stability testing of the Thoracic spine.
 - d. Neurologic testing
 - e. Red and yellow flag recognitions and interpretation.
 - f. Selected intervention for condition scripts.
2. Condition Scripts
 - a. Identification of typical presentation of selected pathology and subluxations
 - b. Apply hypothesis testing for illness scripts as part of the differential diagnosis
 - c. Select and perform appropriate manual therapy intervention based on subjective and objective data.
 - d. Select appropriate interventions: Therex, NM reed modalities and HEP for illness scripts
3. Manual therapy interventions
 - a. Apply appropriate manual therapy intervention based on clinical exams

- b. Demonstrate proper technique with manipulation taking into account:
 - i. Proper treatment selection
 - ii. Integrate proper neuromuscular reeducation and therapeutic exercise prescription.
 - iii. Appropriate force for selected treatment
 - iv. Evaluation of response to treatment