



**Chiropractic BioPhysics**  
CBP—The Science of Spinal Health

**2018**

# CBP<sup>®</sup> Seminar Modules 8-13. Advanced Certification Program

*Up to 70 hours Pending State*

**Courses taught in Eagle, ID at the CBP Doctor Institute**

## CBP<sup>®</sup> Pediatrics Seminar

**June 16, 2018**

**Course Title:** CBP Pediatrics Seminar

**Instructors:** Dr. Jennifer Brandon, Dr. Pete Lope, and Dr. Deed Harrison

**Course Objective:** This course provides an integrated education for the Doctor of Chiropractic in the science and art of pediatric disorders and adjusting. Normal developmental anatomy of the infant through childhood will be detailed. Examination methods and findings that the Chiropractor needs to know for proper assessment of vertebral subluxation and abnormal development for the pediatric patient will be reviewed. The Chiropractor will learn normal and abnormal evolution of the pediatric sagittal plane spinal curvatures and subluxation conditions. Postural and spinal evaluation of the newborn through adolescence is a primary focus of this conference. The details of case management using CBP instrument, drop table and other structural rehabilitation methods will be covered using a variety of case studies for a comprehensive picture of clinical application of this course material. A survey of research material will be reviewed supporting the utilization and efficacy of CBP technique structural rehabilitation treatment methods across a variety of pediatric patient conditions.

**Total Hours:** 10

### **Saturday June 16**

**9am-10am**

#### **Introduction to Baby Adjusting**

#### **Normal and Abnormal Development of the Infant/Child**

- Anatomy and Physiology review relative to vertebral position and skeletal posture.
- New born to 6 yrs of age.

**1 Hr. CE. Lecture-Technique**

**10am-11am**

#### **Examination of the Pediatric Patient and Anatomy Review of Pediatrics**

- Assessing for vertebral subluxations using postural rotations and translations of the head, thorax, and pelvis
- Explanation and description of the postural examination.
- Palpation of the pediatric patient
- Osteology,
- Normal and abnormal findings using spinography.

**0.5 Hr.CE. Lecture/ Principles of Practice/NMS Diagnosis**

**0.5 Hr. CE. Lecture/ Anatomy**



## Chiropractic BioPhysics CBP—The Science of Spinal Health

### CBP<sup>®</sup> Pediatrics Seminar

**Saturday June 16**

**11am-Noon**

#### **Individual Case Studies of and Analysis technique**

- Introduction to Pediatric Adjusting (Birth – 2 years).

**1Hr. CE. Lecture/ Technique**

**Noon-2-pm**

#### **Sagittal Spinal Alignment of the Pediatric**

- Cervical lordosis: Development in-utero to age 13 yrs.,
- Thoracic kyphosis: Development from 3-4 yrs to 13 yrs.,
- Lumbar lordosis and sacral inclination: Development from 3-4 yrs. To 13 yrs.
- Pediatric spinal abnormalities: A review of pertinent literature showing subluxation and consequent health effects.

**2Hr. CE. Lecture/Clinical Sciences**

**2pm-4pm**

#### **Case Studies: of Pediatric Patients from Examination, Posture, and Spinal Radiography**

- Frequency and duration of Chiropractic intervention for pediatric populations
- Analysis and Corrective Methods using a variety of patient cases.
- Pediatric Headaches and abnormal cervical lordosis,
- Pediatric Asthma and allergies.
- ADHD and abnormal cervical lordosis.

**2 Hr. CE. Lecture/Technique-CBP**

**4pm-5pm**

#### **Pediatric Health Disorders that May Positively Respond to Chiropractic Intervention and Management of Sagittal Plane Deformities:**

- ICA Best Practices—Research evidence indicates that many health conditions have been reported to respond to Chiropractic in pediatric populations.
- Indications and contraindications for the use of home corrective orthotics in pediatric patients.

**1 Hr. CE, Lecture, Technique – CBP**

**5pm-7pm**

#### **Review of Pediatric Adjusting Using Posture & Palpation**

- Upper cervical analysis and spinography to determine the necessary corrective intervention,
- Atlas laterality,
- Flexion/extension fixations of the CO-C2 joint complex.
- Individual and Published Case Studies for Pediatrics and Analysis technique

**2 Hr. CE. Lecture/Technique-CBP**



## Chiropractic BioPhysics *CBP—The Science of Spinal Health*

# CBP<sup>®</sup> Biomechanics of the Spine & Posture Seminar

**June 20, 2018**

**Course Title:** Biomechanics: Spine, Posture, Central Nervous System & Lower Extremities

**Instructors:** Dr. Deed Harrison, Dr. Paul Oakley, Dr. Stu Currie

**Course Objective:** This course provides an integrated education for the Doctor of Chiropractic in the science and art of spine, posture, and lower extremity biomechanics and health disorders. Physiological loads will be reviewed as will their resultant stress and strain patterns. Vertebral kinematics will be discussed and applied to postural alterations in normal and abnormal spine behavior. Central nervous system biomechanics will be presented and discussed relative to neuro-physiological consequences. The total permutations of abnormal posture using formulas from probability theory will be delineated and a literature review on postural displacements as they correlate to patient conditions will be provided. Biomechanical Etiologies of Common Pathological Conditions of the Foot and Lower Kinetic Chain and Orthotic Design and Implementation will be presented. A survey of research material will be reviewed supporting the utilization and efficacy of Chiropractic Biophysics drop table technique treatment methods across a population of patients with chronic pain conditions.

**Total Hours:** 10

### **Wednesday, June 20**

#### **9am-11am Biomechanical Principles Applied to the Spine and the Subluxation:**

- **Structural Subluxation Categories from the Literature**
  - Segmental displacement,
  - Posture and spinal displacement patterns,
  - Instability at one or more segments,
  - Coronal plane Euler buckling methods,
  - Sagittal plane or Snap through buckling .
- **Rotations and Translation Principles:** Absolute rotation angles, relative rotation angles.
- **4 Physiological Applied Loads and Consequent Resultant Stress and Strain**
  - Axial loads,
  - Torsion loads,
  - Pure bending loads,
  - Transverse loads.
- **Permutations of Postural Displacements**
  - Single postures of the head, thorax, and pelvis,
  - Double, triple, quadruple, ..., sextuple combination postures of head, thorax, and pelvis equating to 728 unique postural combinations of each region,

**2 Hr. CE. Lecture; Clinical Sciences**

#### **11am-1pm Practical Ergonomics Applied to the Spine**

- Definitions and Applications: stress, strain, stress-concentrations, centric loading, eccentric loading, material direction, etc.
- Posture,
- Kinesiology, and
- Vector Mechanics

**2 Hr. CE. Lecture; Clinical Sciences**



## Chiropractic BioPhysics CBP—The Science of Spinal Health

# CBP® Biomechanics of the Spine & Posture Seminar

### Wednesday, June 20

- 1-2pm**      **Biomechanics and Anatomy of the Sacro-Iliac Joint and Disorders**
- Boney anatomy of the SI Joint Complex,
  - Ligamentous anatomy of the SI-Joint complex
  - Biomechanics of the SI-Joint Complex- including loading studies, kinematic studies,
  - Biomechanics of the muscles surrounding the SI Joint complex—piriformis, biceps femoris, gluteus maximus, medius, multifidus, and thoraco-lumbar fascia,
  - Disorders of the SI Joint and treatment intervention strategies.
- 1 Hr. CE. Lecture, Technique Chiropractic BioPhysics**
- 2pm-3pm**      **Vertebral Kinematics and Postural Rotations and Translations**
- Sagittal head translation kinematics and range of motion.
  - Sagittal thoracic translation kinematics and ration of motion.
  - Coronal head translation kinematics and range of motion.
  - Coronal thoracic translation kinematics and range of motion
- 1 hour Technique Chiropractic BioPhysics**
- 3pm-4pm**      **Bone and ligament Mechanical Properties and Response to Loads**
- Wolff's law and stress generated potentials.
  - Streaming potentials and excitation of osteoblasts and osteoclasts.
  - Degenerative-adaptive response of biological tissues in the spine to stress and strains.
- 1 Hr. CE. Lecture, Principles of Practice/NMS Diagnosis**
- 4pm-5pm**      **Biomechanics of the Central Nervous System: The Spine Posture Connection**
- Canal deformations and CNS strains due to physiological loads.
  - Stresses action on the spinal cord due to physiological loads.
  - Neurophysiological consequences resulting from CNS stresses and strains. **D. Harrison**
- 1 Hr. CE. Lecture, Principles of Practice/NMS Diagnosis**
- 5pm-7pm**      **Biomechanical Assessment of Orthotic Intervention for Foot and Lumbo-pelvic Disorders**
- Understand the rationale for exploring a new approach to biomechanical management of the foot and lower kinetic chain.
  - Explain the main design options for custom-type orthotic and correction position.
  - Know the five key biomechanical goals of stance phase gait and understand their relationship to the dynamics of the lumbo-pelvic spine.
  - Answer the question: should a biomechanical orthotic be rigid or flexible?
  - Explain why typical custom orthotics appear to be effective in many cases.
  - Assessing the patient for orthotic intervention: Demonstrate and give the rationale for correct gait-referenced casting techniques.
- 2 Hr. CE. Lecture; Clinical Sciences**



**Chiropractic BioPhysics**  
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## **CBP<sup>®</sup> Whiplash Injury & Treatment Update**

**June 17, 2018**

**Course Title:** Whiplash Injury & Treatment Update

**Instructors:** Dr. Deed Harrison, Dr. Joseph Ferrantelli, Dr. Evan Katz, Dr. Joe Betz, Dr. Jason Jaeger

**Course Objective:** This course provides an integrated education for the Doctor of Chiropractic in the Science and Art of chiropractic analysis and management of patients injured in motor vehicle collisions. Biomechanical, neuro-physiological, and epidemiologic aspects of whiplash injuries will be reviewed and discussed. Understanding/differentiating subtle and complex ligament injuries of the cervical spine will be presented. Litigation and documentation of whiplash injuries and a review of the International Chiropractors Associations Best Practice and Whiplash Injury Guidelines will be presented. An update-to-date review of research material will be presented supporting the utilization and efficacy of a variety of Chiropractic examination/documentation procedures, and treatment techniques across motor vehicle injury populations.

**Total Hours:** 10

**Sunday, June 17**  
**9am-11am**

### **Biomechanical Definition of Subluxation in Whiplash Injury Patients**

- Sagittal plane models of the cervical lordosis;
- Biomechanical cervical subluxation categories indicative of trauma;
- Snap through buckling as a model of abnormal cervical curvatures in the sagittal plane;
- A literature review regarding the cervical lordosis and health outcomes in whiplash injured populations.

**2 Hr. CE/ Lecture/ Research Trends**

**D. Harrison**

**11am- 1pm**

### **Biomechanical, Neurological, and Epidemiologic Aspects of Whiplash Injury**

- Examination and Diagnostic Imaging in the MVC patient.
- Objectively identifying subluxation in the MVC patient.
- Quantifying subluxation in the MVC patient: What does the scientific literature tell us?
- Documentation of the injury in the MVC patient
- The role of chiropractic care in treating chronic pain patients
- Patient injuries from MVC's,
- Litigation issues involved in using CBP Technique treatment protocols and procedures
- Whiplash Injury-Treatment Guidelines and Future Care

**2 Hr. CE/ Lecture/ Research Trends**

**E. Katz**

**1pm-2pm**

### **Co-Management with General Practitioners, Physiatrists, and Surgeons for MVC patient**

- Examination and Diagnostic Imaging in the MVC patient
- Objectively identifying subluxation in the MVC patient
- Quantifying subluxation in the MVC patient
- Relating injury in the MVC patient to legal professionals
- Educating the patient on their MVC injury

**1 Hr. CE/Lecture/Principles of Practice**

**E. Katz, J. Ferrantelli**



## Chiropractic BioPhysics CBP—The Science of Spinal Health

### CBP® Whiplash Injury & Treatment Update

**Sunday, June 17**

**2pm-3pm**

#### **Advances in X-Ray & MRI Technology to Better Determine Cervical Spine Injury:**

- To image or not to image in cervical spine patient populations.
- Identification of alar ligament, tectorial membrane and posterior atlanto occipital membrane injuries in trauma injured patients.
- Identification of anterior and posterior longitudinal ligament injuries.
- Identification of facet capsular and intervertebral disc injuries in injured patients.

**1 Hr. CE/Lecture/Radiology**

**E. Katz, J. Jaeger**

**3pm-5pm**

#### **A 21<sup>st</sup> Century Personal Injury Chiropractic Practice:**

- **Communication:** With the other health care providers, your patient, the lawyer, and the insurance companies,
- **Letters you need:** To the Primary Care Physician, requests for prior records, LOP,
- **Billing:** How do you charge for your services, What about co-pays, What is an LOP, What helps, what hurts,
- **Questions you need answered:** Liability, Insurance Policy Limits;
- **Bad Faith:** What is it;
- **Documentation:** Initial, Progress, Final - Life Care Plans,
- **Court:** Depositions, Fees, Preparation, Trial itself;

**2 Hr. CE/Lecture/Principles of Practice**

**E. Katz, J. Jaeger**

**5pm-7pm**

#### **Mirror Image Cervical Spine Rehabilitation Procedures and Protocols and Case Management & Case Studies of the Cervical Spine in Whiplash Injured Patients**

- How to Progress the injured Patient into Cervical Spine Traction Procedures,
- CBP cervical rehabilitation in several case reports published in the peer-reviewed literature.
- CBP equipment and patient needs.
- Types of Lateral Cervical Traction Methods with 16 categories of sagittal subluxations,
- Home traction remodeling orthotics for the cervical spine: Indications & contraindications,
- Case management timing, exams, re-exams using clinical case studies

**2 Hr. CE. Lecture, Technique-CBP**

**D. Harrison**





## Chiropractic BioPhysics CBP—The Science of Spinal Health

# CBP® Scoliotic Deformity Analysis & Management

**June 19, 2018**

**Course Title:** Scoliotic Deformity Analysis & Conservative Management Strategies

**Instructors:** Dr. Deed Harrison and Dr. Joe Betz

**Course Objective:** This course provides an integrated education for the Doctor of Chiropractic in the science and art of understanding, evaluating, and management of scoliotic deformities in adolescents and adults. The link between genetic triggers, biomechanical growth modulation, environmental risks, and age development will be explained as they related to scoliotic deformities. Categories of scoliosis will be explained with emphasis on understanding risk factors for curve progression in both adolescent and adult scoliotic deformities. Cutoff curve values and age of onset will be explained to aid the Chiropractic clinician in deciding to management or refer the scoliosis patient for surgical consultation. The details of conservative management of scoliotic deformities are a major emphasis of this conference where new flexible bracing concepts and devices as well as rehabilitative procedures will be thoroughly explored. Evaluation of important curve variables as well as outcome assessments will be used to determine conservative management strategies and successful intervention. The details of case management using conservative bracing, adjusting and rehabilitative methods will be covered using a variety of case studies for a comprehensive picture of clinical application of this course material. Last, a survey of research material will be reviewed supporting the utilization and efficacy of the course materials.

**Total Hours:** 10

### **Tuesday June 19**

**9am-11am**

#### **Chiropractic Evaluation of the Scoliosis Patient & Outcome Variables**

- Thoracic Posture & Thoraco-Lumbar Coupling Kinematics;
- Differentiation of Thoraco-lumbar Scoliotic Pattern From 'Simple' Postural Spine Displacements;
- Postural Evaluation of the Scoliotic Patient: Rotations and Translations;
- Non-commutative Property of Finite Rotation Angles Under Addition;
- Postural & Stress Bending Views to Assess Potential for Scoliosis Reduction;

**2 Hr. CE. Lecture/Principles of Practice/NMS Diagnosis**

**D. Harrison & J. Betz**

**11am-1pm**

#### **Scoliosis Development Considerations, Indications for Surgical Referral, & Bracing**

- The genetic role in development of scoliosis,
- Genetic trigger, growth modulation, growth maturation, spinal growth and curve progression,
- Categories of scoliosis: juvenile, neurologic, adolescent, adult onset, etc...,
- Indicators for conservative treatment vs. surgical interventions for adolescent vs. adult scoliosis.
- Indicators for SpineCor bracing in Adult scoliosis vs. Adolescent Idiopathic Scoliosis,
- Pain and progression factors in Adult scoliosis,

**2 Hr. CE. Lecture/Principles of Practice/NMS Diagnosis**

**J. Betz**



**Chiropractic BioPhysics**  
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## **CBP® Scoliotic Deformity Analysis & Management**

**Tuesday June 19**

**1pm-2pm**

**Biomechanics of Curve Progression,**

- Euler Buckling & Scoliosis Progression;
- Understanding Thoracic Spinal Kinematics and Scoliotic Deformities;
- Evaluation of the Scoliotic Spine: Reliability & Validity of Important Measures;

**1 Hr. CE. Lecture/Clinical Sciences**

**J. Betz**

**2-4pm CBP Technique Principles of Management of Thoraco-lumbar and Thoracic Scoliosis**

- Leg Length Inequality & Sacral Anomalies: Orthotic Intervention;
- Mirror Image® Scoliosis/Postural Stress Views: Indications and Contraindications for CBP® Technique Management of Scoliotic Deformities;
- Conservative Management of Thoraco-lumbar Scoliosis: CBP® Technique Case Presentations;
- Conservative Management of Thoracic & Complex Scoliosis: CBP® Technique Case Presentations

**2 Hr. CE. Lecture/Technique—CBP**

**D. Harrison**

**4pm-7pm**

**Continue---CBP Technique Principles of Management of Thoraco-lumbar and Thoracic Scoliosis**

- Thoracic Posture & Thoraco-Lumbar Coupling Kinematics;
- Differentiation of Thoraco-lumbar Scoliotic Pattern From 'Simple' Postural Spine Displacements;
- Non-commutative Property of Finite Rotation Angles Under Addition;
- Mirror Image® Scoliosis/Postural Stress Views: Indications and Contraindications for CBP® Technique Management of Scoliotic Deformities;
- Conservative Management of Thoraco-lumbar Scoliosis: CBP® Technique Case Presentations;
- Conservative Management of Thoracic & Complex Scoliosis: CBP® Technique Case Presentations
- Indications and contra-indications for the scoli-roll orthotic.
- Chiropractic and Scoliosis Reduction: A Review of the Literature;

**3 Hr. CE. Lecture/Technique—CBP**

**D. Harrison**





## Chiropractic BioPhysics *CBP—The Science of Spinal Health*

### CBP® Advanced--Full Spine Analysis & Techniques

**June 18, 2018**

**Course Title:** CBP Advanced--Full Spine Analysis & Techniques

**Instructors:** Dr. Deed Harrison, Dr. Joe Ferrantelli, Dr. Joe Betz

**Course Objective:** This course provides an integrated education for the Doctor of Chiropractic in the science and art of full spine disorders. Detailed literature reviews covering the sagittal plane of the spine during pediatric development through age related change occurring in senior populations will be presented. Statistical correlations between each spinal region will be detailed so the Chiropractor understands how alterations in one region of the spine can influence regions above or below. A primary objective is to introduce the attendee to the anatomic variable of pelvic morphology (geometric alignment of the sacrum inside the ilia) and how variations and anomalies of pelvic morphology alter the sagittal plane alignment of the spine. Further, it will be explained how common anomalies such as how 4 lumbar vertebra, 6 lumbar vertebra, and transitional segments affect the sagittal plane alignment of the spine. In the end, details of case management using these topics will be covered using a variety of case studies for a comprehensive picture of clinical application of this course material. A survey of research material will be reviewed supporting the utilization and efficacy of CBP technique treatment methods across a population of patients with abnormal spine conditions.

**Total Hours:** 10

#### **Monday, June 18**

**9:00-11am**

##### **Review of Sagittal Plane Spinal Model Correlations and Basic Statistical Analysis**

- Biomechanics of posture: Rotations and Translations of the head, thorax, and pelvis,
- Harrison sagittal plane model of the cervical lordosis, thoracic kyphosis, and lumbar lordosis,
- Pediatric, adult, and geriatric alignment for the sagittal spine curvatures,
- Statistical correlations using scatter plots and linear regression models will be detailed so the relationship between sacral angle, lumbar lordosis, thoracic kyphosis, cervical lordosis, and sagittal balance can be understood,
- Variables that influence/alter sagittal plane spine/posture alignment will be introduced: posture, age, vertebral shape, pelvic morphology, sacral morphology, 6 lumbar, 4 lumbar, and transitional vertebra.

**2 Hr. CE. Lecture, Principles of Practice/NMS Diagnosis**

**Deed Harrison**

**11am-1pm**

##### **Pelvic Morphology Defined:**

- Pelvic morphology is explained and defined: sacral geometry and connection of the sacrum to the ilia relative to the hip axis,
- Pelvic morphology measurement methods: Angle of pelvic incidence (API), Pelvi-sacral angle, PR-S1 pelvic radius method, and Posterior Tangent Pelvic Incidence Angle (PTPIA),
- Pelvic morphology and aging and normative data sets will be detailed.

**2 Hr. CE. Lecture, Anatomy**

**Deed Harrison**



## Chiropractic BioPhysics CBP—The Science of Spinal Health

### CBP® Advanced--Full Spine Analysis & Techniques

#### **Monday, June 18**

**1pm-3pm**

#### **Cervical-Thoracic Inlet Morphology Defined**

- Thoracic Inlet angle and correlation to T1 Slope
- Thoracic inlet angle measurement methods
- Cervical lordosis and thoracic inlet angles;

**2 Hr. CE, Lecture, Examination**

**3-6pm**

#### **Pelvic Morphology Influence on Sagittal Plane Spine Alignment and Geometry**

- Pelvic Morphology influence and correlation to sacral base angle,
- Pelvic Morphology influence and correlation to lumbar lordosis,
- Pelvic Morphology influence and correlation to sagittal translation/balance,
- Pelvic Morphology influence and correlation to thoracic kyphosis,
- Pelvic Morphology influence and correlation to cervical lordosis,
- Linear regression equations to use pelvic morphology to predict sagittal spine alignment in anomalies situations,
- Mock patient cases to assess pelvic morphology's influence on the spine/posture alignment.

**1 Hr. CE. Lecture, Clinical Sciences all states**

**2 Hr. CE. Lecture, **Technique for CA****

**Deed Harrison**

**2 Hr. CE. Lecture, **X-ray for all other states****

**6pm-7pm**

#### **Lumbar Spinal Anomalies and Clinical Case Management**

- 6-Lumbar vertebra: Normative lordosis values and global vertical axis line (VAL) at S1 for sagittal balance and postural alignment,
- 4-Lumbar vertebra: Normative lordosis values and global vertical axis line (VAL) at S1 for sagittal balance and postural alignment,
- Transitional vertebra: Normative lordosis values and global vertical axis line (VAL) at S1 for sagittal balance and postural alignment,
- How to Choose which spinal region to treat/correct first for optimal spinal rehabilitation in simple and full spine subluxation conditions,
  - Pelvic Morphology (API = angle of pelvic incidence) examples applied to sagittal plane posture/spine treatment methods and outcomes in a variety of patient conditions;

**1 Hr. CE. Lecture, Technique-CBP**

**Deed Harrison**



**Chiropractic BioPhysics**  
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## **CBP® Neurology, Posture, & Systemic Health**

**June 21, 2018**

**Course Title:** Neurology, Posture & Systemic Health

**Instructors:** **Dr. Daniel Murphy and Dr. Deed Harrison**

**Course Objective:** To provide a current education in the biomechanics and neuro-physiology of posture deformities as they relate to Systemic Health of the human. Detailed neuro-physiology of the central and peripheral nervous systems will be reviewed. Emphasis is placed on mechano-sensitive afferent nerve supply of the ligaments and muscles and their consequent relationship to abnormal posture/spine alignment and visceral dysfunction (Type O Disorders). Mechano-sensitive nerve endings in the facet capsular ligaments, spinal ligaments, intervertebral discs and muscles will be reviewed. This information forms the scientific rationale for the hypothesis of a Nerve Interference Theory based upon deformation of tissue mechano-receptors from abnormal tissue loading in abnormal posture and spinal alignment. Additionally, the nutr

**Total Hours:** 10

**Thursday June 21**

**9am-12pm**

**Biomechanics of Posture Deformities**

- The effects of altered spinal mechanics on the tissues of the body,
- The effects of altered spinal mechanics on the central nervous system,
- The effects of altered spinal mechanics on the peripheral nervous system

**3 Hr. CE. Lecture, Anatomy/Physiology**

**Noon-1pm**

**The Patho-anatomical Reasons for the Need of Chiropractic Healthcare**

**1 Hr. CE. Lecture, Anatomy/Physiology**

**1pm-2pm**

**Indications and contraindications for prescribing home orthotics to patients populations for sagittal plane curve restoration**

- Cervical spine,
- Thoracic spine,
- Lumbar-pelvic region

**1 Hr. CE. Lecture/Lab CBP Technique**

**2pm-5pm**

**Neurophysiology of Abnormal Spinal and Posture Deformity**

- Spinal Cord tethering: how it affects the health of the body, and how to manage by chiropractors
- The chiropractic affect of chronic pain from trauma: what is nerve sprouting,
- Hyper-reinnervation, denervation supersensitivity and neurospinal learning,
- The relationship between altered spinal mechanics, proprioception and systemic health,
- The relationship between altered spinal mechanics and myofascial pain syndrome/ fibromyalgia syndrome and chiropractic subluxation complexes

**3 Hr. CE. Lecture, Anatomy/Physiology**



## Chiropractic BioPhysics

*CBP—The Science of Spinal Health*

### CBP® Neurology, Posture, & Systemic Health

**Thursday June 21**

**5pm-7pm**

#### **The Role of the Sympathetic Nervous System in Systemic Health**

- How Chiropractic affects the sympathetic nervous system,
- The reflex nerve interference: definition of nerve compression nerve interference and predominance in chiropractic practice and its inter-relationship,
- Management of Chronic Pain & Disease
- Including rheumatoid arthritis, systemic lupus erythematosus, psoriasis, Grave's Disease, multiple sclerosis, etc),
- Allergies, asthma, chronic fatigue syndrome, ear infections, hypertension, colds,
- Other systemic diagnosed diseases

**2 Hr. CE. Lecture, Anatomy/Physiology**



**Chiropractic BioPhysics**  
*CBP—The Science of Spinal Health*

## Module 15: CBP® Mirror Image® Bracing for Scoliosis Deformities

**June 22 – 23, 2018**

**Course Title:** CBP® Module 15. Mirror Image® Bracing for Scoliosis Deformities

**Instructors:** Dr. Jeb McAviney, Dr. Deed Harrison, and Dr. Joe Betz

**Course Objective:** This course provides an integrated education for the Doctor of Chiropractic in the science and art of understanding, evaluating, and management of scoliotic deformities in adolescents and adults. The link between genetic triggers, biomechanical growth modulation, environmental risks, and age development will be explained as they related to scoliotic deformities. Categories of scoliosis will be explained with emphasis on understanding risk factors for curve progression in both adolescent and adult scoliotic deformities. The details of conservative management of scoliotic deformities are a major emphasis of this conference where new flexible and rigid bracing concepts and devices as well as rehabilitative procedures will be thoroughly explored. Evaluation of important curve variables as well as outcome assessments will be used to determine conservative management strategies and successful intervention. The details of case management using conservative bracing, adjusting and rehabilitative methods will be covered using a variety of case studies for a comprehensive picture of clinical application of this course material.

**Total Hours:** 20

### **Friday, June 22**

**9am-11am**

#### **Chiropractic Evaluation of the Scoliosis Patient & Outcome Variables**

- Thoracic Posture & Thoraco-Lumbar Coupling Kinematics;
- Differentiation of Thoraco-lumbar Scoliotic Pattern From 'Simple' Postural Spine Displacements;
- Postural Evaluation of the Scoliotic Patient: Rotations and Translations;

**2 Hr. CE. Lecture/Principles of Practice/NMS Diagnosis**

**11am-1pm**

#### **New 3-D Posture Scanning Techniques**

- Postural Evaluation of the Scoliotic Patient in 3-D
- Using postural scans to aid in the development of proper braces.

**2 Hr. CE. Lecture/Principles of Practice/NMS Diagnosis**

**1pm-2pm**

#### **Lunch**

**2pm-4pm**

#### **Scoliosis Indications for Bracing & Co-Management Referral Consultation**

- Genetic trigger, growth modulation, growth maturation, spinal growth and curve progression,
- Categories of scoliosis: juvenile, neurologic, adolescent, adult onset, etc...,

**2 Hr. CE. Lecture/Clinical Sciences**



## Chiropractic BioPhysics *CBP—The Science of Spinal Health*

### Module 15: CBP® Mirror Image® Bracing for Scoliosis Deformities

4pm-5pm

#### The Mirror Image Bracing Concept

- Mirror image bracing concept defined,
- Types of scoliosis braces---selecting the right type of brace for the patient at hand,
- Indicators for soft vs. hard bracing in Adult scoliosis vs. Adolescent Idiopathic Scoliosis,

**1 Hr. CE. Lecture/Clinical Sciences**

5pm-7pm

#### Administration and Following Patients with Mirror Image Bracing

- Fitting and application of the different scoliosis braces,
- Follow up considerations for the patients after Mirror Image Bracing.

**2 Hr. CE. Lecture/Lab Technique-CBP**

#### **Saturday, June 23**

9am-1pm

#### Case Studies and Application of Course Materials

- How to implement bracing and course material into your existing practice as well as survey research materials
- Billing-coding-documentation for scoliosis braces,
- Studies supporting efficacy of course materials and treatment methods

**4 Hr. CE. Lecture/Technique—CBP**

1pm-2pm

#### Lunch

3pm-7pm

#### CBP Technique Principles of Management of Thoraco-lumbar and Thoracic Scoliosis

- Conservative Management of Thoraco-lumbar Scoliosis: CBP® Technique Case Presentations;
- Conservative Management of Thoracic & Complex Scoliosis:
- CBP® Technique Case Presentations 3-D Denneroll Table patient applications
  - Stress x-ray possibilities
  - Patient setups
  - Home Orthotics and in office orthotics.

**4 Hr. CE. Lecture & Lab/Technique—CBP**