



Chiropractic Biophysics® - CBP® Seminars

Optimal Spine • Optimal Posture • Optimal Health

P.O. Box 8209 Spring Creek, NV 89815

Phone (775) 777-1875 Fax (777) 777-1883

www.idealspine.com

CBP® Certification Seminars & Detailed Outlines

Each CBP® Seminar covers unique areas and aspects of spinal disorders and their consequent CBP® analytical procedures and interventions. CBP® Technique adjusting interventions include Mirror Image® spine and postural adjustments using a combination of instrument, drop table and manual methods. CBP® Technique rehabilitative interventions include Mirror Image® spine and postural exercises and traction using a variety of original and well established devices and methods. Additionally, ergonomic intervention, nutritional recommendations, and other standard procedures are incorporated creating a comprehensive system for today's patient populations. Join CBP® Seminars and learn the most up to date information and state of the art systems for spinal rehabilitation in the Chiropractic profession.

2009 CBP® Basic Certification Seminar Requirements:

- 1) Basics of CBP®: Radiographic & Postural Protocols & Procedures;
- 2) Mirror Image® Drop Table Adjusting, Leg Length Inequality & Orthotic Intervention;
- 3) Mirror Image® Instrument Adjusting & Upper Cervical Analysis;
- 4) Structural Rehabilitation of the Cervical Spine;
- 5) Structural Rehabilitation of the Lumbar Spine;
- 6) CBP® Hands on Training Workshop.

Basic Certification Test:

- ✓ The Chiropractor must sit and pass a test of CBP theoretical and practical application knowledge. The test consists of written questions, x-ray analysis, postural analysis, and clinical intervention.

2009 CBP® Advanced Certification Seminar Requirements:

In addition to the Basic Certification Requirements:

- 1) Pediatrics;
- 2) Neurology, Posture, & Systemic Health;
- 3) Scoliotic Deformity Analysis & Conservative Management Strategies;
- 4) Structural Rehabilitation of the Thoracic Spine & CBP Case Management;
- 5) Advanced Full Spine Analysis & Techniques;
- 6) Spinal Biomechanics: Spinal Mechanics, Subluxation, & Nerve Interference.

CBP® Advanced Certification Test:

- ✓ The Chiropractor must prepare and write a case presentation; the doctor has the option of presenting this case to their peers at either the CBP® Annual or Semi-Annual Conferences. The patient was treated using CBP®.
- ✓ The Chiropractor must submit a current photograph and list depicting the types of CBP® related spinal rehabilitative equipment in their Chiropractic clinic.



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Seminar Fee Schedule, Seminar Times, & Registration Information

I) Register or Order Online at:

www.idealspine.com or www.chiropracticbiophysics.com

II) Seminar Times:

A. CBP Hands On Work shop:

- Friday 2pm-6pm;
- Saturday 9am-6pm with a 1 hour lunch included;
- Sunday 8am- Noon.

B. All Other CBP Seminars:

- Saturday 9am-6pm with a 1 hour lunch included;
- Sunday 8am- Noon.

III) Seminar Fee Structures

A. **Pre-Register** for All 6 Basic or Advanced Seminar Packages and Save 10%;

B. Seminar Fees for Doctor, Student, & CA or Spouse:

Seminar Name	Doctor Fee 2 weeks Advance	Doctor Late Fee	Student—CA--Spouse Fee 2 weeks Advance
Basics of CBP®	\$499.00	\$549.00	\$249.00
Mirror Image® Drop Table	\$499.00	\$549.00	\$249.00
Mirror Image® Instrument	\$499.00	\$549.00	\$249.00
Cervical Spine Rehab	\$499.00	\$549.00	\$249.00
Lumbar Spine Rehab	\$499.00	\$549.00	\$249.00
Hands on Workshop	\$695.00	\$695.00	\$695.00 Student & \$350.00 CA
Pediatrics	\$499.00	\$549.00	\$249.00
Neurology, Posture, Health	\$499.00	\$549.00	\$249.00
Scoliosis	\$499.00	\$549.00	\$249.00
Thoracic Spine Rehab	\$499.00	\$549.00	\$249.00
Advanced Full Spine	\$499.00	\$549.00	\$249.00
Biomechanics	\$499.00	\$549.00	\$249.00
CBP® Semi-Annual	\$499.00	\$549.00	\$249.00
CBP® Annual	\$549.00	\$599.00	\$249.00



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I. Basic Certification Seminar Series

1) Basics X-ray & Posture

A. Course Objective: This course provides an integrated education for the Doctor of Chiropractic reviewing the literature on frequency and duration topics for establishing a logical treatment plan for Chiropractic patients. This course will define a normal static equilibrium spinal model from the literature and define two types of subluxation as not normal: abnormal posture and segmental spinal coupling patterns as rotations and translations in 3-D. There will be validity, reliability, projection geometry, and CBP analysis methods. The CBP® method of postural examination and with practical stations will be taught. A literature review supporting a normal spinal model of upright posture will be provided along with basic definitions and theorems from mechanical engineering governing rigid body motion. Apply basic mechanical engineering to posture and spinal coupling.

B. Course Outline:

1. Overview of CBP Technique, CBP Mirror Image Procedures

- Rationale for Care, Acute versus Chronic Care,
- Define Chiropractic & Subluxation, 3-D Postural Analysis,
- Postural displacements and vertebral kinematics,
- Mechanical engineering listing 3-D listing system for spine and posture displacements.

2. CBP Technique Care Plans: Rehabilitative vs. Supportive and Maintenance Care:

- Initial Report of findings and Structuring a CBP Rehabilitative Program of care for patients based on examination findings: What does the literature say in terms of frequency and duration of care?
- Re-Report of findings, Explanation of patient outcome measures, and Structuring a 2nd CBP Rehabilitative Program of care: What does the literature say regarding frequency and duration of care?
- Maintenance vs. Supportive care plans for patients: What does the literature say?

3. Introduction to A system Analysis of 2-D CBP Procedures & Views, Equipment

Alignment

- Modified Riser-Ferguson,
- Posterior Tangents,
- CBP peer-reviewed published reliability studies.

4. Practical Station Demonstrations

- Postural analysis as rotations and translations,
- Mirror image drop table adjusting for postural displacements,
- Mirror image instrument adjusting for postural displacements,
- PosturePrint and PostureRay training demonstrations,
- Evidence based report of findings.

5. Harrison Spinal Model as Goal of Care



- Cervical Spine—Spine 1996 and 2004,
 - Thoracic Spine—J Spinal Disorders 2002 and Spine 2003
 - Lumbar Spine---J Spinal Disorders 1997 and J Orthopedic Res 1998.
- 6. 2-D Projection Physics & Image Distortion**
- 2-D Projection Physics of 3-D Human Posture

2) Mirror Image[®] Drop Table Adjusting

A. Course Objective: This course provides an integrated education for the Doctor of Chiropractic in the science and art of spine, posture, and lower extremity disorders. 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. The details of objective postural assessment and measurement will be reviewed. The Chiropractor will learn corrective global postural subluxation set-ups for the head, thoracic cage, & pelvis on a drop table. To provide diagnosis, analysis and course of care for short leg syndrome and lower extremity disorders as well as upper cervical subluxations/fixations. 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.

B. Course Outline

1. Categories of Biomechanical Principles and the Subluxation that will be reviewed and utilized to determine postural rotation and translations in technique set ups:

Functional

- Hypo/Hyper mobility of spinal segments
- Fixed segments
- Aberrant motion or altered coupling
- Coronal and Sagittal plane Hyper tonic muscles (spasm)
- Coronal and Sagittal plane Asymmetrical muscle activity

Structural

- Segmental displacement
- Posture and spinal displacement patters
- Instability at one or more segments
- Coronal plane Euler buckling methods
- Sagittal plane or Snap through buckling

2. 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,

3. Review Postural Displacements Correlated to Health Disorders

- The prevalence of lateral head shift postures in a patient population: A correlation of posture magnitude, pain, and demographic variables.
- Anterior head translation and patient disorders: Cephalgia 1993 & Headache 1999,



- Sagittal plane posture abnormalities and kinematics: Clin Biom 2004,
- 4. Objective Measurements of Postural Displacements**
 - Types of postural measurement devices,
 - Reliability and validity of postural measurement devices,
 - PosturePrint computerized photographic measurement of 3-D postural displacements: Reliability and validity studies,
 - Clinical implementation of the PosturePrint system and understanding the reported measurements: Posture Index scale.
 - 5. Comprehensive CBP Drop Table set-ups with Biomechanical Principles.**
 - How to utilize Postural rotations and translations in drop table set-ups,
 - Single, double, and triple combination global postural subluxation set-ups for the head, thoracic cage, and pelvis on a drop table,
 - AP Full Spine Drop Table Mirror-Image Adjusting,
 - Lateral Full Spine Drop Table Mirror-Image Adjusting.
 - 6. Practical Station Demonstrations**
 - Drop Table Mirror Image Adjustments:
 - a) AP Cervical Drop Table Mirror-Image Adjusting,
 - b) AP Thoracic Drop Table Mirror-Image Adjusting,
 - c) AP Pelvic Drop Table Mirror-Image Adjusting.
 - PosturePrint Postural Analysis,
 - Instrument Adjusting for postural displacements,
 - Upper Cervical specific adjustments on the drop table.
 - 7. Anatomical vs. Functional Leg Length Inequality & Foot Disorders**
 - Understanding the functional vs. functional short leg,
 - Incidence and prevalence of leg length disorders,
 - Reliability and validity of leg length assessments,
 - Sacral obliquity and anomalies mimicking leg length discrepancies,
 - Health consequences of leg length discrepancies,
 - Interventional orthotics for leg length discrepancies and pelvic asymmetry,
 - 8. A Review of 3 Clinical Trials Using CBP Drop Table Adjusting**
 - Randomized trial comparing CBP Technique to Palmer package for chronic pain disorders,
 - Non Randomized clinical control trial using CBP Technique for correction of lateral head translations in patients with chronic neck pain: JRRD 2004,
 - Non Randomized clinical control trial using CBP Technique for correction of lateral trunk translations in patients with chronic low back pain: ESJ 2005,
 - 9. Drop Table Adjustments for Upper Cervical Subluxations/Fixations**
 - Flexion subluxation/fixation of the occiput on atlas,
 - Extension subluxation/fixation of the occiput on atlas,
 - Flexion fixation/subluxation of the atlas on C2,
 - Extension fixation/subluxation of the atlas on C2,
 - Pseudo-subluxation of C2 to C3.



3) Mirror Image[®] Instrument Adjusting & Upper Cervical

A. **Course Objective:** This course provides an integrated education for the Doctor of Chiropractic in the science and art of upper cervical spinal disorders with application to instrument adjusting for full spine postural subluxations and joint fixations. The Chiropractor will learn how posture displacement influences the upper cervical spine as well as normal joint kinematics and instability analysis of the upper cervical spine. The biomechanics and neurophysiological mechanisms of instrument adjusting techniques will be reviewed with indications for different techniques of segmental versus postural adjusting. Corrective global postural subluxation set-ups for the head, thoracic cage, and pelvis with a hand-held instrument used to adjust the upper cervical area will be reviewed as will segmental adjusting techniques for upper cervical subluxation/displacements. The DC will learn at least one proper side and opposite side type of set up for each of the head to thoracic spine postures and the DC will learn one proper side and opposite side type of set up for each of the very common full spine postures. A comparative review of upper cervical methods of adjusting and a literature review on upper cervical anomalies will be learned. The details of case management using these instrument adjusting 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.

B. Course Outline

1. Upper Cervical Positioning & Analysis Studies

- Introduction to postural and spinal analysis using a cartesian coordinate system, relative & absolute rotation angles, degrees of freedom, basic theorems,
- Introduction to upper cervical analysis, reliability studies, assessments,
- Clinical outcome studies of upper cervical Chiropractic adjustments.

2. Biomechanics and Neurophysiology of Instrument Adjusting

- Biomechanics of instrument adjusting: Tuning into the resonant frequency of the joint complex,
- Neurophysiology and muscular effects of instrument adjusting,
- The effects of spinal degeneration and injury on spinal stiffness and applications to instrument adjusting.

3. Review of 3-D vs. 2-D Postural/Spine Analysis

- Evaluation of the posture and spine using postureprint and postureray,
- Proper Patient Positioning:
- Spinal projection.

4. Head Posture and Upper Cervical Spine Kinematics

- Analyzing the upper cervical spine in lateral head translations,
- Analyzing the upper cervical spine in axial (y-axis) head rotations,
- Analyzing the upper cervical spine in lateral flexions of the head.

5. Practical Stations

- Hand-held cervical instrument for AP viewed postures (standing),



- Hand-held cervical instrument for AP viewed postures (side posture),
 - Hand-held cervical Instrument for Lateral viewed postures,
 - Hand-held instrument for segmental joint subluxation/fixation adjusting,
 - PosturePrint & postureray training demonstrations.
- 6. Mirror Image Instrument Adjusting Setups & Upper Cervical Specific**
- Head to thoracic single, double, and triple combination postural/spine adjustments,
 - Thorax to pelvis single, double, and triple combination postural/spine adjustments,
 - Pelvis to feet single, double, and triple combination postural/spine adjustments,
 - Full spine postural/spine adjustments
- 7. Upper Cervical Kinematics and Instability**
- Anatomy and Biomechanics of the upper cervical spine,
 - Flexion/extension kinematics of the upper cervical spine,
 - Lateral bending and axial rotation kinematics of the upper cervical spine,
 - Instability cutoff values of upper cervical spine movements.
- 8. Literature Review of Anomalies of the Upper Cervical Spine**
- Identifying and management of short condyles,
 - Identifying and management of rotated condyles.

4) Structural Rehabilitation of the Cervical Spine

A. Course Objective: This course provides an integrated education for the Doctor of Chiropractic in the science and art of cervical spine disorders. Detailed literature reviews covering the crisis of cervical disorders in patient populations, the role of spinal manipulative therapy and structural correction of sagittal cervical lordosis will be covered. Normal average and ideal values for the cervical lordosis will be reviewed. Detailed categories of head to thorax postures, spine kinematics and abnormalities of the sagittal cervical lordosis will be learned. The Chiropractor will learn appropriate application and timing of postural and functional exercises for the cervical spine designed to correct spinal subluxation and strengthen the cervical and upper thoracic spine tissues. The Chiropractor will be introduced to 16 categories of sagittal cervical traction and 3 methods of coronal cervical traction with demonstrations for structural rehabilitation of the cervical spine. Indications and contraindications to these new structural rehabilitation procedures will be reviewed. The details of case management using these 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 population of patients.

B. Course Outline

- 1. Structural Rehabilitation of the Cervical Spine & Relationship to Chiropractic.**
- The difference and similarities between functional and structural cervical spine rehabilitation procedures,



- Systematic review of spinal manipulative therapy for cervical spine disorders: evidence on pain improvements and frequency and duration of Chiropractic intervention,
 - Basic biomechanics of cervical spine postural displacements: disc and muscular loads leading to acceleration of cervical degeneration and disorders,
 - Review of the Literature Defining the Cervical Lordosis in Health & Disease
 - A. Ideal and Average values in adults and children,
 - B. Cervical lordosis & neck pain & headache syndromes,
 - C. Cervical lordosis and motor vehicle crash collisions,
 - D. Cervical lordosis & degeneration of the disc and vertebra,
- 2. Understanding the Posture Spine Connection & Abnormal Cervical Configurations:**
- Cervical spinal kinematics and coupling for cervical-thoracic posture displacements:
 - Double and triple postural combinations and their associated spinal kinematic appearance,
 - Differentiating 'simple' postural displacement patterns of the spine versus complicated, injury related spine displacement types and subluxations.
- 3. Body Weighting and Dynamic Head/Neck Braces for Cervical Rehabilitation**
- History of and clinical indications for use of body weighting for reducing postural/spinal subluxations of the cervical-thoracic region,
 - Clinical indications for dynamic postural/spine rehabilitation using head/neck remodeling braces,
 - Case presentations of patients with cervical spine disorders describing the details of patient management using body weighting and dynamic braces.
- 4. Mirror Image Exercises of the Cervical-Thoracic Region**
- Mirror image exercise implementation and application into a chiropractic practice: equipment needs, timing, and appropriate supervision of patient populations,
 - Mirror image exercise for head and cervical postural displacements,
 - Mirror image exercise for strength and conditioning in cervical postural displacements.
- 5. Practical Demonstration Set-Ups**
- Pope 2-Way cervical 3-point bending traction method,
 - DeGeorge Compression extension cervical spine traction method,
 - Compression extension 2-way cervical spine traction method,
 - Coronal & Sagittal plane head translation traction methods,
 - Mirror-Image Exercises for cervical spine/postural subluxations,
 - Body weighting and dynamic braces for cervical spine/postural subluxations,
 - Drop Table and Instrument Mirror-Image Adjusting.
- 6. Mirror Image Cervical Spine Traction Procedures and Protocols**
- How to Progress the Patient into Cervical Spine Traction Procedures,
 - 4 Types of Lateral Cervical Traction Methods with 16 categories of sagittal subluxations,



1. Pope 2-way cervical traction: Indications & Contraindications,
 2. DeGeorge compression extension traction: Indications & Contraindications,
 3. Compression extension 2-way traction: Indications & Contraindications,
 4. Meyer's cervical remodeling collar: Indications & Contraindications.
- Home traction for the cervical spine: Indications & contraindications,
 - Postural Traction for Coronal Plane Displacements of the cervical spine,
 - Traction Procedures for disc herniations and canal stenosis of the cervical spine/
- 7. Case Management & Studies Documenting Correction of the Cervical Spine**
- Non randomized clinical control on CBP Pope 2-way cervical traction procedures for rehabilitation of cervical lordosis in chronic neck pain: APMR 2002,
 - Non randomized clinical control on CBP compression extension 2-way cervical traction procedures for rehabilitation of cervical lordosis in chronic neck pain: JMPT 2003,
 - Non randomized clinical control on CBP DeGeorge compression extension cervical traction procedures for rehabilitation of cervical lordosis in chronic neck pain: JMPT 2004,
 - CBP cervical traction in several case reports published in the peer-reviewed literature.
 - CBP equipment and patient needs.

5) Structural Rehabilitation of the Lumbar Spine

A. Course Objective: This course provides an integrated education for the Doctor of Chiropractic in the science and art of lumbo-pelvic disorders. Detailed literature reviews covering the crisis of lumbar disorders in patient populations, the role of spinal manipulative therapy and structural correction of sagittal lumbar lordosis will be covered. Normal average and ideal values for the lumbar lordosis will be reviewed. Detailed categories of lumbo-pelvic postures, spine kinematics and abnormalities of the sagittal lumbar lordosis will be learned. The Chiropractor will learn appropriate application and timing of postural and functional exercises for the lumbar spine designed to correct spinal subluxation and strengthen the lower back tissues. The Chiropractor will be introduced to 17 categories of sagittal lumbar traction and 5 methods of coronal lumbar traction with demonstrations for structural rehabilitation of the lumbar spine. Indications and contraindications to these new structural rehabilitation procedures will be reviewed. The details of case management using these 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 population of patients with chronic pain conditions.

B. Course Outline

1. **Structural Rehabilitation of the Lumbar Spine & relationship to chiropractic.**



- The low back pain crisis: incidence, prevalence, adolescent and adult low back pain,
 - Systematic review of spinal manipulative therapy for lumbar disorders: evidence on pain improvements and frequency and duration of Chiropractic intervention,
 - Basic biomechanics of lumbar spine postural displacements: disc and muscular loads leading to acceleration of lumbar degeneration and lumbar disorders,
 - Review of the Literature Defining the Lumbar Lordosis in Health & Disease
 - a) Ideal and Average values in Adults and Children,
 - b) Lumbar Lordosis & Race or Ethnicity,
 - c) Lumbar Lordosis & Low Back Pain Syndromes,
 - d) Lumbar Lordosis & Spondylolisthesis,
 - e) Lumbar Lordosis & Degeneration of the Disc and Vertebra,
- 2. Understanding the Posture Spine Connection & Abnormal Lumbar Configurations:**
- Lumbar spinal kinematics and coupling for thoraco-lumbar posture displacements:
 - Double and triple postural combinations and their associated spinal kinematic appearance,
 - Differentiating 'simple' postural displacement patterns of the spine versus complicated, injury related spine displacement types and subluxations.
- 3. Body Weighting and Dynamic Thoraco-Lumbar Braces for Lumbar Rehabilitation**
- History of and clinical indications for use of body weighting for reducing postural/spinal subluxations of the thoraco-lumbo-pelvic region,
 - Clinical indications for dynamic postural/spine rehabilitation using thoraco-lumbar remodeling braces,
 - Case presentations of patients with lumbar spine disorders describing the details of patient management using body weighting and dynamic braces.
- 4. Mirror Image Exercises of the Thoraco-lumbar-pelvic Region**
- Mirror image exercise implementation and application into a chiropractic practice: equipment needs, timing, and appropriate supervision of patient populations,
 - Mirror image exercise for thoracic postural displacements,
 - Mirror image exercise for pelvic postural displacements and full spine exercises.
- 5. Practical Demonstration Set-Ups**
- Standing 3-point bending Lumbar Traction Method,
 - Supine 3-point bending Lumbar Traction Method,
 - Coronal & Sagittal plane trunk translation traction methods,
 - Mirror-Image Exercises,
 - Body weighting and dynamic braces,
 - Drop Table and Instrument Mirror-Image Adjusting
- 6. Mirror Image Traction Procedures and Protocols**
- How to Progress the Patient into Lumbar Spine Traction Procedures,
 - 4 Types of Lateral Lumbar Traction Methods with 17 categories of sagittal subluxations,



- a) Standing 3-Point Bending Lumbar Traction: Indications & Contraindications,
 - b) Sagittal Translation Traction: Indications & Contraindications,
 - c) Hip Extension Traction: Indications & Contraindications.
 - d) Supine 3-Point Bending Lumbar Traction: Indications & Contraindications,
 - Postural Traction for Coronal Plane Displacements of the Lumbar Spine,
 - Traction Procedures for Disc Herniations and Canal Stenosis of the Lumbar Spine
- 7. Case Management & Studies Documenting Correction of the Lumbar Spine**
- Non randomized clinical control on CBP lumbar traction procedures for rehabilitation of lumbar lordosis in chronic low back pain: APMR 2002,
 - CBP lumbar traction in a case series of 3 patients with the flat back syndrome (lumbar kyphosis) and consequent disability: J Chiro Ed 05,
 - CBP lumbar traction in a case of chronic low back pain with radiculopathy due to disc herniations: JMPT 2004,
 - CBP equipment and patient needs.

6) CBP® Hands on Training Workshop

A. Course Objective: This course provides an integrated education for the Doctor of Chiropractic in the Art of chiropractic techniques for spine and postural abnormalities in today's patient populations. This is a 3 day hands on training designed to test the Chiropractic clinicians' knowledge of CBP® technique and their ability to perform it. Current knowledge in CBP technique adjusting, exercises, and traction procedures will be reviewed. Emphasis is placed on analysis of spine/posture deformities using valid and reliable assessments and then the appropriate adjustive and rehabilitative treatment techniques. An interactive survey of case studies for enhanced learning will be presented.

B. Course Outline

- 1. CBP® Technique and Rehabilitation procedures with emphasis on staff and patient responsibilities and communication points**
 - CBP® Technique and Rehabilitation procedures with emphasis on staff and patient responsibilities and communication points,
 - PosturePrint® analysis with hands on training and generated postural displacement findings for each person attending;
- 2. Mirror Image Adjusting Using PosturePrint Displacement Findings**
 - Mirror Image® adjusting based on PosturePrint® findings. Each attendee will partner up and use Drop Table and Instrument techniques for supervised adjusting setups and demonstrations;
- 3. Mirror Image Exercises Using PosturePrint Displacement Findings**
 - Mirror Image® exercise program structuring and implementation using the PosturePrint® findings of each attendee;
 - Each Attendee will implement & perform exercises for rotation and translation displacements of the head, thorax, pelvis, and extremities;



4. **Mirror Image® Lumbar-pelvic Traction**

- Each attendee will be given a patient radiograph and postural findings and be asked to perform a setup in various lumbar-pelvic traction devices,
- The details of patient progression throughout treatment will be delineated,
- Indications and contra-indications to each traction type will be delineated.

5. **Mirror Image® Thoracic and Full Spine Traction**

- Each attendee will be given a patient radiograph and postural findings and be asked to perform a setup in various thoracic and full spine traction devices,
- The details of patient progression through a program of treatment will be delineated,
- Indications and contra-indications to each traction type will be delineated.

6. **Mirror Image® Cervical Spine Traction**

- Each attendee will be given a patient radiograph and postural findings and be asked to perform a setup in various cervical spine traction devices,
- The details of patient progression through a program of treatment will be delineated,
- Indications and contra-indications to each traction type will be delineated.

II. **Advanced Certification Seminar Series**

1) **Pediatrics**

A. **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 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.

B. **Course Outline**

1. **Introduction to Baby Adjusting**
2. **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.
3. **Examination of the Pediatric Patient**



- 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
- 4. Anatomy Review of Pediatrics**
 - Osteology,
 - Normal and abnormal findings using spinography.
- 5. Individual Case Studies of and Analysis technique**
 - Introduction to Pediatric Adjusting (Birth – 2 years).
- 6. Practical Stations and Demonstrations**
 - Practical Stations and Demonstrations of Pediatric Adjusting
 - Upper cervical pediatric adjusting using hand held instrument,
 - Upper cervical pediatric adjusting using drop table,
 - Postural adjusting on the drop table.
- 7. Review of Pediatric Adjusting Using Posture & Palpation**
 - Upper cervical analysis and spinography to determine the necessary corrective intervention.
- 8. 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.
- 9. Case Studies: of Pediatric Patients from Examination, Posture**
 - Analysis and Corrective Methods using a variety of patient cases.

2) Neurology Posture, & Systemic Health. Instructor: Dr. Dan Murphy

A. Course Objective: To provide a current education in Posture related to Systemic Health and types of Mechanoreceptors and Proprioceptors. To relate abnormal posture with visceral dysfunction (Type O Disorders) Hypothesize and support a Nerve Interference Theory based upon deformation of proprioceptors and mechanical receptors from abnormal tissue loading in abnormal posture. To provide a literature review on Posture and Systemic Health. Provide a literature review on mechanoreceptors and proprioceptors in spinal tissues: Facet capsular ligaments, spinal ligaments, intervertebral discs and Muscles. To review visceral dysfunction from abnormal posture.

B. Course Outline

- 1. The effects of altered spinal mechanics on the tissues of the body**
- 2. The effects of altered spinal mechanics on the central nervous system**
- 3. The effects of altered spinal mechanics on the peripheral nervous system**
- 4. The Pathoanatomical reasons for the need of chiropractic healthcare**



5. **Spinal Cord tethering: how it affects the health of the body,**
6. **The chiropractic affect of chronic pain from trauma: what is nerve sprouting**
7. **Hyper-reinnervation, denervation supersensitivity and neurospinal learning**
8. **The relationship between altered spinal mechanics, proprioception and systemic health**
9. **The relationship between altered spinal mechanics and myofascial pain syndrome/ fibromyalgia syndrome and chiropractic subluxation complexes**
10. **The role of the sympathetic nervous system in systemic health: how Chiropractic affects the sympathetic nervous system**
11. **The reflex nerve interference: definition of nerve compression nerve interference and predominance in chiropractic practice and its inter-relationship**
12. **The academic and neurophysiological basis for chiropractic management of:**
 - chronic pain,
 - auto-immune collagen disease (including rheumatoid arthritis, systemic lupus erythematosus, psoriasis, Grave's Disease, multiple sclerosis, etc),
 - allergies,
 - asthma,
 - chronic fatigue syndrome,
 - ear infections,
 - hypertension,
 - colds, and
 - other systemic diagnosed diseases

3) Scoliosis Deformity Analysis & Conservative Management

- A. **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.

B. Course Outline



1. **Scoliosis Development Considerations and Indications for Surgical Referral**
 - The genetic role in development of scoliosis,
 - The link between 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.
2. **Bracing Indicators for Adult vs. Adolescent Scoliosis**
 - Introduction to SpineCor soft brace for scoliosis management,
 - Indicators for SpineCor bracing in Adult scoliosis vs Adolescent Idiopathic Scoliosis,
 - Pain and progression factors in Adult scoliosis,
 - Conservative Treatment for Adult scoliosis,
 - Early SpineCor results in Adults and in adolescents.
3. **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;
4. **Chiropractic Evaluation of the Scoliosis Patient & Outcome Variables**
 - Postural Evaluation of the Scoliotic Patient: Rotations and Translations;
 - Important Outcome Measures for the Scoliotic Patient: Pediatrics vs. Adults;
 - Chiropractic and Scoliosis Reduction: A Review of the Literature;
 - Postural & Stress Bending Views to Assess Potential for Scoliosis Reduction;
5. **CBP Technique Principles of Management of Thoraco-lumbar and Thoracic Scoliosis**
 - Thoracic Posture & Thoraco-Lumbar Coupling Kinematics;
 - Leg Length Inequality & Sacral Anomalies: Orthotic Intervention;
 - 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

4) Structural Rehabilitation of the Thoracic Spine

- A. **Course Objective:** This course provides an integrated education for the Doctor of Chiropractic in the Art and Science of chiropractic with an emphasis on postural and spinal distortions of the thoracic spine. Examination and documentation procedures will be reviewed mainly for thoracic vertebral subluxation complexes but lumbar and cervical subluxation



complexes will be reviewed too. Chiropractic adjustive and rehabilitative treatment techniques for thoracic, lumbar, and cervical subluxations will be detailed. A survey of research material will be reviewed supporting the utilization and efficacy of Chiropractic Biophysics technique treatment methods across a spectrum of patient conditions.

B. Course Outline

1. Thoracic Spine Biomechanics, Subluxation Patterns, & Health Disorders

- Review of thoracic kyphosis normative data for pediatrics, adults, and geriatrics,
- Review of the Harrison sagittal plane spinal thoracic model,
- Biomechanics of thoracic posture displacements,
- Altered thoracic kyphosis and postural displacements and health consequences ,

2. Detailed Overview of CBP Examination Procedures

- Structural based outcome measures: PosturePrint® Posture analysis and spine alignment;
- Functional based outcome measures: Range of motion, Algometry, Semg, etc;
- When and which outcome questionnaires: Numerical rating scale, Oswestry low back pain, Neck disability index, SF-36, SF-12, SF-10;
- 6-12 Visit Interim-examination: What outcome assessments to include and why?
- 24-36 Visit Re-evaluation: What outcome assessments to include and why?
- Long-term Follow-up Examination procedures: When should these be performed, what outcome assessments to include and why?

3. Thoracic Spine and Posture Subluxations: Thoracic Kyphosis Types

- Thoracic Kyphosis and its relationship to lumbar & cervical curve correction,
- Thoracic straight spine syndrome due to congenital narrowing of the chest diameter.

4. Thoracic Spine and Posture Subluxations and CBP Structural Rehabilitation

Techniques with Case Study Examples

- Case Study: Thoracic Hypo-Kyphosis types, analysis and CBP treatment;
- Case Study: Postural Hyper-Kyphosis analysis and CBP treatment;
- Case Study: Scheueremanns Kyphosis analysis and CBP treatment;

5. Dynamic Methods of Postural and Structural Spinal/Pelvic Correction

- The Benefits of Short Duration Whole Body Vibration at resonant frequency with low amplitude;
- Case Study Presentation: Rehabilitation of thoracic postural translation in an elderly female with chronic back and pelvic pain using WBV at resonant frequencies with low amplitude;
- Case Study Presentation: Rehabilitation of an adult with chronic impairments and abnormal forward head posture resulting from a rear-end motor vehicle collision;
- Case Study Presentation: Rehabilitation of a young adult male athlete with anterior thoracic posture and chronic low back pain.

6. Lumbar Spine and Posture Subluxations and CBP Structural Rehabilitation

Techniques:

- Pelvic Morphology influence on sagittal plane lumbar alignment;



- Case Study: chronic lumbar disc herniation and CBP treatment;
 - Case Study: lumbar post surgical laminectomy and CBP treatment;
 - Case Study: Flat Back cases and CBP treatment;
- 7. Cervical Spine and Posture Subluxations and CBP Structural Rehabilitation**
- Techniques:**
- Case Study: Multi-level cervical spine plated surgery. Coronal Plane Cervical postural abnormality causing post surgical disability and CBP treatment;
 - Case Study: Sagittal plane single level and multilevel cervical spine fusions. Post surgical neck pain/disability and CBP treatment;
 - Case Study: ADHD in a pediatric patients, cervical spine subluxations and CBP treatment;
 - Case Study: Syringomyelia, cervical spine subluxations; and CBP treatment;
 - Case Study: Chronic whiplash associated impairments in patients, cervical spine subluxations, and CBP treatment.
- 8. Management of Complex Spine and Posture Deformities Using CBP Technique:**
- Full Spine Posture and Spine Subluxations: Where to start CBP treatment and why?
 - Case Study: Upper cervical spine subluxation in a post-concussion patient.
 - Case Study: Thoracic Scoliosis and CBP Treatment.
 - Case Study: Lumbar Scoliosis and CBP Treatment.

5) Advanced Full Spine Analysis & Techniques

A. 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.

B. Course Outline

- 1. 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. 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.
- 3. Detailed Overview of CBP Examination Procedures**
- Structural based outcome measures: PosturePrint® Posture analysis and spine alignment;
 - Functional based outcome measures: Range of motion, Algometry, Ssemg, etc;
 - When and which outcome questionnaires: Numerical rating scale, Oswestry low back pain, Neck disability index, SF-36, SF-12, SF-10;
 - 6-12 Visit Interim-examination: What outcome assessments to include and why?
 - 24-36 Visit Re-evaluation: What outcome assessments to include and why?
 - Long-term Follow-up Examination procedures: When should these be performed, What outcome assessments to include and why?
- 4. 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.
- 5. Lumbar Spinal Anomalies**
- 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,
- 6. Clinical Case Management Applying Pelvic Morphology and Anomalies**
- 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;

6) Spinal Biomechanics: Spinal Mechanics, Subluxation, & Nerve Interference

A. Course Objective: To provide a university level, literature based current spinal biomechanics education. Review of types of loading of spinal biomechanics and provide stress and strain evaluations of spinal tissues during each type of spinal loading. Review mechanisms of injury to the spine.

B. Course Outline

- 1. Biomechanics; Application of forces or movement to bones of the spine which causes a change in alignment towards or away from Normal position.**
 - Review of Vector Mechanics applied to adjusting techniques
 - Mechanical Engineering Definitions of Stress and Strain
 - Normal and shear stresses and strains applied to posture during axial loads, bending and transverse loads.
- 2. Biomechanical three dimensional coupling based on direction of force. Movement of the spine which is associated with mechanoreceptors reflexes causing decrease or increase in pain and or increase or decrease in Range of Motion.**
 - Flexion
 - Extension
 - Lateral Flexion
 - Rotation
 - Coupled directional forces
- 3. Biomechanical evaluation of spinal positions: Two or more individual motions are said to be coupled; lateral bending and axial rotation or anterior translation with flexion, when one motion is always accompanied by another motion. The motion being produced by an external load is termed the main motion and all accompanying motions are called coupled motions.**
- 4. Deformation of Bone and components**
 - Structures of Bone
 - a) Torsion and Facet Asymmetry
 - b) Disc Resist Torsion
 - Stress Generated Potentials



- a) Elasticity
- b) Plasticity
- c) Viscosity
- d) Strain Energy
- e) Hysteresis

5. Electrical Interference of the Central Nervous System

- Review of the Literature
- Extremely Low Frequency Field Window Effects
- Physiochemical Model of Nerve Conduction
- Cite Experiments that Prove Hodgkin-Huxley Model is False

6. Degeneration of Spinal Tissues;

- calculation of stress in Kyphosis
- lateral spinal curves and restoration of spinal curves
- adverse mechanical traction

7. Deformation of the Central Nervous System

- Joint surface asymmetry; especially atlanto-axial joint
- Muscles spasms or myo-imbances
- Abnormal static neutral posture with alterations in dynamic kinematics
- Abnormal sagittal plane postures and altered spinal kinematics
- Segmental instability

8. Disc structure and biomechanics in Cervical, Thoracic and Lumbar

- Structure of Collagen and Elastin
- Stress-Strain graphs
- Deformation during Flexion, Axial Rotation and Lateral Flexion

