Beyond Straight Teeth

Rethinking Early Orthodontics Through Airway, Growth & Function

Proposed 1.5-Day Continuing Education Course Outline

What if the most important orthodontic decisions are made years before the permanent teeth erupt?

Course Overview

Course purpose: To provide dentists with a practical framework for recognizing altered craniofacial development in children, evaluating airway, sleep, skeletal and functional factors, and selecting appropriate early orthopedic treatment strategies when intervention is indicated.

Target audience: General dentists, pediatric dentists and orthodontists.

Format: Lecture, clinical case review, Bolton overlay instruction/workshop, sleep-study interpretation, appliance selection and protocols, interdisciplinary considerations, and parent communication.

Primary Learning Objectives

- Recognize common transverse, sagittal, vertical and functional disturbances in the developing craniofacial complex.
- Perform a systematic early orthodontic, airway and functional screening examination.
- Understand the relationship among nasal breathing, tongue posture, sleep-disordered breathing and craniofacial development.
- Understand key components of pediatric sleep studies and when referral to medical or ENT providers is appropriate.
- Use Bolton growth standards and the Bolton overlay technique to assist in evaluating skeletal growth and treatment timing.
- Develop treatment objectives before selecting an appliance.
- Select appropriate early orthopedic appliances and understand practical activation, monitoring, endpoint and retention protocols.
- Recognize treatment limitations, complications and situations in which observation or interdisciplinary referral is preferable.
- Communicate diagnostic findings, treatment objectives, alternatives and limitations effectively to parents.

Day 1 - Diagnosis: Learning to See the Developing Face

Time	Session	Core Content
8:00-8:30	Why Early Treatment?	Course philosophy; orthodontics vs craniofacial orthopedics; treatment timing; goals and limitations of early intervention.
8:30-9:15	Normal Craniofacial Growth	Normal transverse, sagittal and vertical development; growth timing; remodeling; establishing the developmental objectives of treatment.
9:15-10:15	Airway, Breathing &	Nasal vs oral breathing; tongue posture; lips and swallow;

	Craniofacial Development	tonsils/adenoids; clinical airway screening; pediatric sleep history and referral considerations.
10:15-10:30	Break	
10:30-11:30	Understanding Pediatric Sleep Studies	AHI, RDI, ODI, oxygenation, REM/NREM findings, sleep efficiency, flow limitation and study limitations; sample case interpretation.
11:30-12:15	Early Orthodontic Screening Examination	A practical systematic examination of facial form, airway, function, dentition, skeletal relationships and TMJ; Treat / Observe / Refer / Investigate decision framework.
12:15-1:15	Lunch	
1:15-2:30	Bolton Standards & Overlay Technique	Bolton growth standards; age-based skeletal comparison; registration concepts; assessment of maxillary, mandibular and vertical development; translation into treatment objectives.
2:30-3:15	Bolton Overlay Workshop	Guided interpretation of representative Class I, Class II and Class III/developing skeletal discrepancy cases.
3:15-3:30	Break	
3:30-4:15	From Diagnosis to Treatment Objective	Classifying transverse, sagittal, vertical and functional deficiencies; establishing objectives before selecting appliances.
4:15-5:00	Interactive Case Diagnosis	Untreated clinical cases reviewed with the audience: treat vs observe, diagnosis, additional records, treatment objectives and referral needs.

Day 2 - Treatment: Turning Diagnosis into Orthopedics

Time	Session	Core Content
8:00-8:15	Day 1 Review	Brief diagnostic case review and transition from diagnosis to treatment planning.
8:15-9:30	Appliance Selection & Clinical Protocols	Appliance selection based on treatment objective: maxillary and mandibular transverse development, sagittal correction, vertical management and selected Class II/Class III orthopedic strategies.
9:30-10:15	Practical Treatment Protocols	Indications, appliance design, activation schedules, expected response, monitoring, endpoints, retention and troubleshooting using representative clinical cases.
10:15-10:30	Break	
10:30-11:00	Interdisciplinary Care	Role and timing of myofunctional therapy, ENT, sleep medicine and other referrals; integrating structural treatment with breathing and oral function.
11:00-11:40	The Parent Consultation	Selected recorded parent presentation followed by discussion of communicating findings, treatment rationale, timing, alternatives, uncertainty and informed consent.
11:40-12:20	Complications & When Not to Treat	Case-based discussion of asymmetric or excessive expansion, transverse imbalance, poor compliance, persistent dysfunction, appliance complications, timing errors and observation/referral decisions.
12:20-1:00	Grand Rounds: Putting It All Together	Rapid case series integrating examination, airway/sleep considerations, Bolton analysis, diagnosis, treatment timing, appliance selection, protocol, referrals and treatment endpoints.

Major Clinical Topics

Airway & Sleep: Airway screening, pediatric sleep symptoms, sleep-study fundamentals, appropriate referral and interdisciplinary management.

Diagnosis: Facial, skeletal, dental and functional examination with emphasis on recognizing abnormal developmental patterns.

Bolton Overlay Analysis: Practical use of age-based Bolton standards to evaluate craniofacial development and assist with treatment objectives and timing.

Appliance Selection: Selection based on the diagnosed deficiency rather than appliance preference, including transverse, sagittal and vertical objectives.

Clinical Protocols: Activation schedules, monitoring, expected changes, treatment endpoints, retention and troubleshooting.

Parent Communication: Use of a recorded parent presentation to demonstrate how complex findings and treatment options can be communicated clearly and responsibly.

Case-Based Learning: Multiple untreated and treated cases to reinforce diagnosis, treatment planning, limitations and clinical decision-making.

Proposed Participant Resources

- Early Childhood Orthodontic / Airway Screening Form
- Bolton Overlay Technique Guide and Case Workbook
- Appliance Selection Decision Guide
- Clinical Appliance Protocol Reference: indications, activation, monitoring, endpoints, retention and troubleshooting

Educational Emphasis

The course is designed around a diagnosis-first philosophy: recognize the developmental problem, determine the treatment objective, evaluate timing and interdisciplinary needs, and only then select the appliance or treatment protocol. Airway and sleep content is presented as dental screening and interdisciplinary assessment rather than as a replacement for medical diagnosis or management of sleep disorders.