treatment phases can benefit the patient dramatically. Earlier FJO treatments can better guide jaw growth, reduce aggregate treatment times and increase beneficial treatment results. It is notable that while just a few years ago many believed jaw growth could not be stimulated with appliances, new research has shown it to be very possible.

To apply new earlier FJO orthodontic and orthopedic principles requires five key steps.

**Step #1** Recommend preconception and prebirth nutrition counseling. This is the first step in the new era of early preventive orthodontics. A few cultures worldwide encourage mothers to go on special nutritional diets for months before conception, not just afterward, in order to increase the chances for a healthy full-term baby. This action makes good nutritional sense. Our modern society emphasizes good nutrition, vitamins and avoidance of drugs, smoking and alcohol after conception, but it does not promote the vital need to have a nutritionally healthy mother before conception. Simple Vitamin A or B deficiency has been shown to cause bone deformities and even cleft palates.1 FJO dentists should encourage patients who want children to consult with a nutritionist before conception in order to promote optimum fetal growth and development.

**Step #2** Recommend “exclusive” breastfeeding (no concurrent pacifier or bottle use) for 5–6 months (6–12 months – all) and recommend lactation consultant counseling before delivery. This is the next step in early preventive orthodontics. Breastfeeding after birth, true suckling, is usually better for infant jaw growth and development as well as overall lifelong health. More women are learning about the many health benefits of breastfeeding and choosing to breastfeed for longer periods of time than just a few decades ago. Some women still choose not to breastfeed at all for various reasons including lack of convenience and ignorance of the many health benefits to the infant and mother. FJO dentists should encourage new parents to be to consult with a breastfeeding consultant before delivery because many muffles exist to successful exclusive breastfeeding.

Breastfeeding places benefi- cial orthodontic forces on the jaws, similar to the forces of FJO, the newest form of orthodontics. Breastfeeding affects orofacial anatomy and physiology at our respiratory system gateway during the most important craniofa- cial formative years. Breastfeeding can orthopedically jump start proper jaw growth and have positive lifelong health affects. FJO dentists should recommend exclusive breastfeeding for a minimum of 5–6 months and total breastfeeding for a minimum of 6–12 months.

Breastfeeding is early pre- ventive orthodontics and ortho- pedics because sucking forces impact the jaws during a critical period of postnatal growth. Postnatal growth is strongest in the first year of life so positive forces are important to proper growth and development. By 12 months of age, unimpeded, the maxilla increases markedly in size, and the anterior part of the mandible that contains the baby teeth (decid- uous dentition) more or less attains its adult size.12 Rhythmic elevation and lowering of the jaw provides sequential and constant changes in tongue positions coordinated with sucking contractions to stimulate growth.13 The forces of sucking actively act on the jaws like orthopedic appliances to induce forward and lateral jaw growth and early airway growth on.

Breast sucking aids proper development of the jaws, which form the gateway to the human airway. It also culturizes positive down and forward growing forces required by both upper and lower jaws. Sucking forces act to spread and widen dentural arches and promotes good swal- low muscle tone, which aids proper jaw and airway growth. Research shows children breast- fed about one year rarely develop dummy or finger sucking habits.14

Bottle, pacifier and digit suck- ing create backward destructive forces on both upper and lower jaws. Pacifier sucking magnifies negative jaw forces because the pacifier is often sucked more ex- tentively and with more force than a bottle. Sucking forces gen- erally act to constict and form narrow dental arches out of soft moldable cartilaginous bone. Sucking promotes poor swallow muscle tone defects, which interfere with proper jaw and air- way growth. Essentially, sucking forces during the early critical post-natal growth period block the full genetic growth po- tential.

Breast-fed babies (suckled infants) are less likely to develop malocclusion-high pre-maxilla, abnormal alveolar ridges and palate, and posterior cross-bit.15 They are less likely to develop allergies.20 Breast-fed infants are much less likely to be overweight,4 a major risk factor for diabetes, kidney and heart disease. They are much less like- ly to develop ear infections,42 insulin-dependent diabetes,43 respiratory infections,44 gastro- intestinal infections, diarrhea,45 and lymphomas (type of child- hood cancer).26 Breast-fed babies are also less likely to be hospital- ized for serious illnesses,27 less likely to die of SIDS,28 and gener- ally have higher IQs.29

Bonding can be used to open closed vertical dimension. Early correction of closed vertical di- amension aids growth and develop- ment, increases tongue and airway space and reduces treat- ment need later. Low vertical dimension, usually seen as a deep bite, often creates a Class II malocclusion mandible trap. A closed bite prevents the manduble from positioning forward as the posterior condyle area grows. One way to open the bite and free the mandible is to place bonded composite on the occlusal sur- face of the lower primary molars. About 1–2 mm added to the pri- mary second molar, and about 2–3 mm added to the primary first molar will usually open the closed bite in the anterior area about 2–4 mm. This allows the mandible to translate forward 1–2 mm. If the mandible is trapped in a deep Class II Divi- sion 2 malocclusion, then a re- movable maxillary appliance or utility arch can be added to increase space for the mandible to translate forward.

Bonding can be used to bal- ance vertical and reduce ear dise-ase. Vertical dimension bond- ing has been shown to reduce or eliminate middle ear disease in chil- dren. Research shows deep bites increase the chance for chronic middle ear disease, with permanent hearing loss. Patients have the ability to re- duce or eliminate a great deal of costly childhood and adult ear disease without drugs or surgery.

Serial bonding can be used progressively to act as braces without-braces. This “fixed” form of early orthodontic treatment al- lows FJO dentists to successively correct small problems before they grow larger. Composite bonding can be used to add bonded composites or stainless steel crowns for serial bonding. Composites can rather simply be re-bonded over and over if necessary.

Pedodontic crown lengthen- ing, bonding to open molar ver- tical dimension can be used to open molar vertical dimension for crowns and stainless steel crowns for serial bonding. A composite bonded to molar crowns can be used to assist in the eruption of permanent first molars. It may be useful to have such a therapist present to facilitate bonding during the eruption of permanent first molars.

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