A new standard is needed for earlier orthodontic (teeth) and orthopedic (jaw-bone) diagnosis and treatment from birth to age eight. It is warranted because published research increasingly shows that small jaws create small airways and increase the likelihood of life-threatening disorders, for life. Jaw and airway related disorders like sleep apnea have recently moved to the forefront of some medical research. Medical attention is drawn to these disorders because direct relationships to hypertension, heart disease and premature death have been discovered. Increasing the size of the jaws and airway during early growth and development may reduce human disease.

Since the upper and lower jawbones form the gateway to the human airway, earlier orthodontic and orthopedic jaw treatment are needed to help more small jaws and airways reach their full growth potential. Although chronic growth of the jaws needs to be better understood, it seems clear that earlier treatments cause complimentary orthodontic and orthopedic results while treatment at later ages increasingly produces less orthodontic and more orthopedic results.

This article will review some background and present some specific steps clinicians can take to provide earlier orthodontic and Functional Jaw Orthopedic (FJO) diagnosis and treatment. This article will show some early treatment techniques with patient outcomes that exhibit the unique advantages of earlier orthodontic and orthopedic treatment.

Newer multi-phase FJO diagnosis and treatment approaches can increase early treatment effectiveness, as well as long term overall efficiency. A new FJO protocol of routine multi-phase orthodontic examination, diagnosis and treatment involving the general dentist, pediatric dentist and orthodontist can result in superior unique health benefits for the patient. These new FJO concepts may very well help general dentists, pediatric dentists and orthodontists move dental care into a future world of medical dentistry that will include the airway, breathing, bed-wetting, ear disease, heart disease and longevity.

Early orthodontic treatment is very controversial, even among dentists. Just the definition of early orthodontics can cause major conflicts of opinion. General dentists, pediatric dentists and orthodontists all have different early orthodontic treatment approaches and protocols. Likewise, they all also have different perspectives on the advantages, disadvantages, scope and outcomes of current early treatment, which generally begins in the mixed dentition stage before all adults have erupted.

Some practitioners consider early orthodontic treatment to be inefficient although they increasingly admit it is effective. The perceived inefficiency is most likely due to the general approach and protocol more than anything else. Additionally, a lack of understanding of the potential lifelong benefits of earlier orthodontic and orthopedic treatment also suppresses acceptance of earlier multi-phase therapy.

The main goal of all early orthodontic diagnostic and treatment protocols should always be to provide the highest quality health service to each individual patient. First, convenience and efficiency are factors to consider in any health treatment. However, orthodontic treatment sometimes comes (good balanced jaws, open airways and stable occlusion) must remain the predominant priority. Early treatment, when indicated, achieves some results that later treatment often cannot. For example, it has been shown that treatment of Class III malocclusion at age 5 results in orthopedic changes while treatment starting at age 9 yields mostly orthodontic tooth movement changes.

A review of current clubfoot pediatric orthopedic protocols which starts at birth, is important to understanding why earlier orthodontic and jaw treatment protocols should also start at birth. Clubfoot bones and malformed jawbones have parallel needs and parallel growth patterns, but rather different treatment timing approaches. Today, clubfoot bones are routinely examined, diagnosed and treated beginning at birth. Conversely, substandard maxilla and mandible jawbones are not routinely examined, diagnosed and treated until after age 6, after about 80% of growth is already finished.

A clubfoot is an abnormal condition of the foot, which is usually present and very visible at birth.3 About one in every 1,000 babies are born with one clubfoot and about one in 2,000 will have both feet affected. The primary cause of a clubfoot deformity remains unknown. A clubfoot is commonly bent downward and inward and may also be rotated. Diagnosis can sometimes be made in-utero. Active treatment begins as soon as possible after birth, often within days. Early treatment may involve massage, manipulation, physical therapy, splints, taping, orthopedic casts, braces and even surgery. Some deformities are mild and others are severe, so treatments and outcomes vary. Clubfoot deformity will not usually improve on its own. Untreated, it will usually worsen and become unsightly and crippling.1 At birth, early clubfoot treatment is a medical priority.

Diagnosis of a clubfoot is much easier than diagnosis of an abnormal jaw. The dramatic difference in diagnostic capability results in a major difference in the timing of orthopedic treatment. Early foot examination can rather easily lead to early recognition, diagnosis and treatment of a very distinct clubfoot deformity. Conversely, an abnormal jawbone can be quite subtle in its irregularity.

Diagnosis of an abnormal jawbone is quite complex. A cleft palate is very visible at birth. However, a small, high, narrow, bubble or channel palate is not as easily recognized or diagnosed. A severely underdeveloped and/or retruded mandible is rather visible at birth. However a small, short or moderately underdeveloped mandible is not as easily recognized or diagnosed. Consequently, diagnosis of a substandard jawbone cannot be made and the need for treatment can be
Early jaw treatment is relatively nonexistent for most children under six years of age today because early diagnosis is relatively nonexistent. Hospital professionals in the health fields currently associated with birth and delivery lack orthopedic jaw diagnostic and therapy training. While good jaws are important to maintaining proper jaw growth and development, and in preventing jaw deformity, the type of early orthodontic pre- and postconception are well known to affect normal bone development.

The current orthodontic specialty protocol that recommends an orthodontic screening by age 7 confirms the early jaw diagnostic gap and the indispensible need for earlier diagnostic training.12 Orthopedic jaw treatments from birth to age 8 will likely become a health priority once the diagnostic and treatment protocols are better defined and the health benefits are better understood.

The void in early orthodontic and early jaw knowledge and treatment is wide, even at the research level. The late medical researcher, writer and lecturer Dr. James F. Bosma (M.D.) wrote in his 1989 book, Anatomy of the Infant Head, “the dearth of anatomical information about postnatal anatomical changes continues to handicap understanding of the processes of that development.”13 Moreover, Dr. J. Daniel Subtelny (D.D.S., M.S.) wrote in his 2000 book, Early Orthodontic Treatment, “Much information needs to be added to our knowledge of early orthodontics… long term observations of early orthodontic treatments are necessary and will increase with the fact that such treatment has not been routinely pursued.”14

The need for earlier orthodontics and orthopedics is clear. The upper and lower jawbones form the gateway to the human airway. Both jawbones are about 80% developed by age 6 and over 90% developed by ages 10–12.10 Jaw treatments from birth to age 8 can catch jaw problems before they become greater, the protocols used today on older children can theoretically be used today on older children if they restrict volume of the nasal breathing space. It is well documented that deforming mouth breathing can promote continuous abnormal jawbone development. It also confirms that braces at age 8 can be too late for some children.

Most jaw bone growth (80–90%) occurs by age 8, especially in the maxilla, which generally grows a bit faster than the mandible. Since most orthodontic treatment occurs after age 8 it can only impact about 10–20% of remaining jaw growth potential. This is further evidence that earlier treatments are warranted so they can have a greater overall impact on jawbone growth and development. It also confirms that braces at age 8 can be too late for some children.

Abnormal jaw growth can be distinct and has been recorded for both the maxilla and the mandible at birth. A cleft-palate is commonly diagnosed when present at birth. A severely retruded (retrogrowth) maxilla and mandible is the common abnormal feature of the mandible recorded at birth because it signals a high risk for a blocked airway, breathing difficulties and even sudden infant death. Less distinctive abnormal upper and lower jaws are harder to recognize and diagnose.

Abnormal jaw growth depends upon many factors, including a good airway, diet, habits and genetics. Genes play an unquestionable role in normal jaw growth and development. Interestingly, airway, diet and cleft-palate jaw deformity are the overall role in determining final abnormal jaw growth outcomes. While good jaws are important to having a good airway, a good airway is important to maintaining proper jaw growth and development, and in preventing jaw deformity. The type of early orthodontic pre- and postconception are well known to affect normal bone development.