Pre-orthodontic options for 21st-century parents

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As a matter of routine, when accepting an orthodontic treatment plan, parents are required to acknowledge their children’s teeth could be damaged during treatment. At best, unless they commit to permanent use of a retainer, patients can expect almost definite relapse, and worst-case scenarios may include enamel damage, root resorption or in the case of corrective jaw surgery, painful lifelong complications.

Unfortunately, though, while parents are becoming more aware of the risks and limitations of traditional orthodontics and generating impetus toward more stable, less invasive treatments, often they are not being fully informed of all the available options.

Despite this increased recognition regarding the shortcomings of traditional orthodontic treatments and escalating demand for contemporary options, the causes of malocclusion remain somewhat clouded from parents. In order to make an informed decision regarding their children’s oral health and decide which treatment is most suitable, these causes must be highlighted.

Three in four 21st-century children will experience malocclusion and parents, as well as the dental professionals advising them, have traditionally attributed this to hereditary factors. However, research demonstrates that rather than genetics, the aetiology of malocclusion is predominately environmental.

The most current evidence, which is often not presented to parents during orthodontic consultation, reveals the majority of malocclusions are caused by incorrect jaw development. This incorrect development restricts the space available for erupting teeth and prevents them from growing into their ideal natural position. For the best part of the last century, the easiest fix for this problem has been to extract healthy permanent teeth, then use braces to align the remaining teeth into underdeveloped jaws.

Unfortunately, for countless orthodontic patients, these mechanical treatments are focused on the symptoms of malocclusion but fail to address the underlying causes, and relapse is the most predictable outcome.

An increasing number of dental professionals have accepted the necessity for new treatment methods, which address the causes rather than just correct the symptoms of malocclusion. These practitioners recognize that in addition to environmental factors (such as the modern diet), inhibited jaw development is being caused by poor myofunctional habits including thumb sucking, reverse swallowing and mouth breathing.

Once these myofunctional causes of malocclusion have been identified, the potential for natural growth is unlocked and preventive, pre-orthodontic treatments can be undertaken and completed much sooner than — or, if necessary, even in conjunction — with braces and can produce outcomes superior to those achieved using a single-treatment method. Photos/Provided by Myofunctional Orthodontics.
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In fact, combining pre-orthodontic preventive treatment with less invasive orthodontic techniques can produce outcomes superior to those achieved using a single-treatment philosophy.

As a result of improved awareness regarding their children’s oral health care, 21st-century parents have become increasingly enthusiastic about less invasive, more preventive treatment methods and legally should be presented with all available treatment options.

Although patient compliance with functional appliances and myofunctional therapy techniques has historically restricted the widespread acceptance of these treatments, modern techniques have addressed these concerns. There are now treatment systems that package myofunctional habit correction, arch expansion and dental alignment into one integrated system that satisfies the parental demand for modern, early pre-orthodontic techniques.

One of the most frustrating aspects of chairside orthodontics has been the process of consistently bonding to artificial and atypical enamel surfaces. Over time, specific products were developed to bond to various substrates such as porcelain, metal, plastic and atypical enamel.

Unfortunately, these products were specific to one surface. For example, 4-META was used as a metal conditioner. Plastic surfaces were treated with a combination of methylmethacrylate, amine and resin. Porcelain crowns required a silane treatment in addition to a caustic hydrofluoric acid etching agent. Confusion often arose as to the various products and protocols needed for each substrate due to a lack of frequent repetition with these special bonding procedures.

In 1998, Reliance Orthodontic Products introduced Assure™ Universal Bond Resin to the orthodontic profession. Assure allowed clinicians to successfully bond to metal, composite and enamel (wet or dry; normal or atypical) with no additional primers. Furthermore, Assure is compatible with any light-cure, dual-cure or chemical-cure paste — regardless of manufacturer. Most importantly, Assure’s hydrophilic properties bond very well to both normal and atypical contaminated surfaces, making it a fixture in most orthodontic practices.

In 2014, Reliance Orthodontic Products introduced Assure Plus All Surface Bonding Resin. It is now possible to bond directly to every intraoral surface using one bonding primer.

The treatment of adults can create a need to bond to dentin and bleached enamel. Assure Plus bonds to both surfaces. Simply acid etch the dentin for 30 seconds, rinse and dry but do not desiccate, leave the dentin moist. Then apply two coats of Assure Plus, lightly dry, light cure and place bracket with the adhesive of your choice.

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