NEW Appliance Information

SERIES 2000®

"The Future of Orthodontics"

Dr. Michael Williams received his D.D.S. Degree from Louisiana State University Dental School and his Certificate in Orthodontics from the University of California at Los Angeles and has been in private practice in Gulfport, Mississippi since his graduation in 1980.

Dr. Williams is a member of the ADA, AAO and has served as the president of the Fifth District Dental Association and the Greater Gulfport Dental Society. Dr. Williams has also served on the MPAC Committee for the Mississippi Dental Association and is the Civilian Consultant to Keesler Airforce Base on TMJ disorders. Dr. Williams has delivered numerous presentations to various dental associations and meetings. Dr. Williams was a featured speaker at the AAO meeting in 1999 in San Diego under the topic of "Clinical Advances in Orthodontics". Dr. Williams has also been a featured speaker to the American Association of Functional Orthodontists and the American Orthodontic Society. His seminar has also been sponsored by UCLA, St. Louis University, and University of Pennsylvania Department of Orthodontics. Dr. Williams has also presented multiple table clinics and round table discussions at various orthodontic meetings as well as fostered research on arch development and molar distalization with nickel titanium coil springs systems. Dr. Williams holds several American & Foreign patents in the field of Orthodontics & Dentofacial Orthopedics.

His extensive background in functional appliances and dentofacial orthopedics leads him to believe that Series 2000® appliances offer the best new designs in orthopedic/orthodontic arch development coupled with the optimum in biocompatible low continuous force systems to date.

It has long been stated that the limiting factor in expansion orthodontics/orthopedics is the mandibular dental arch. Clinicians have for years been providing maxillary palatal orthopedics and orthodontic expansion with successful results only to find that their labors did not allow their patients the complete benefit of a non-extraction treatment modality due to the limited arch length development of the corresponding mandibular arch.

In attempting to deal with this problem/limitation, I found myself resorting to a slower activation technique when using maxillary orthopedic expansion appliances in order to gain a resultant mandibular expansion through the occlusal forces of mastication. It was my finding that in many cases where maxillary expansion was initiated in a slower and longer manner that not only was the maxillary expansion (development) more stable, but that crowding was reduced in the mandibular arch.

For years I have followed my maxillary expansion mechanics with Frankel appliances in order to maintain and continue further natural development of the improved arch form also in hopes of creating an oral environment which would allow for arch development in the mandible when the second phase of treatment was required upon full ruption of the permanent dentition. Often this first phase of treatment was longer than was necessary as the result of being at the mercy of eruption development for the individual child.

I HAVE BEEN INVOLVED WITH TWO PHASE TREATMENT FOR OVER FIFTEEN YEARS,

and it is at this point after having tried various removable and fixed mandibular appliances that I would like to present a fixed mandibular expander which has shown to be easily accepted by the patient and is more hygienic and efficient than anything that I have ever used.

There are two basic designs for the lower arch and one design for the upper. The lower designs are the MJX-2000® and the MSX-2000®. They are designed to be used in conjunction with any and all maxillary expansion appliances so as to maintain coordination in arch forms and widths during maxillary expansion. The MJX-2000® and MSX-2000® can be used independently to gain both inter canine width and inter molar width when these have shown to be deficient on posterior/anterior head plates.

The most interesting aspect of the appliance is if the clinician is willing to use it early enough, it has been this author's experience that mandibular lateral incisors can be allowed to erupt in adequate space when previously this space was inadequate. The significance of such timing is that as the tooth erupts into the created arch space it brings its alveolar and periodontal supports along with it. This is much different than previously used mechanics where bracketed teeth which have malposed positions are relocated into an orthodontically developed position via brackets and arch wires.

I have designed these appliances based on my fifteen years of orthodontic/orthopedic experience and a need for their use. In my opinion these appliances are the next generation in fixed expansion for several reasons.

five REASONS THESE APPLIANCES ARE THE NEXT GENERATION IN FIXED EXPANSION

1

The MJX-2000® is clinician friendly in that it does not require any more activations than previously used orthopedic expanders in either the maxillary and mandibular arch. For those clinicians who have been comfortable allowing parents to make the activations on jackscrew appliances this appliance can also work into that mode as the only activation which is required is at the midline screw. The anterior/posterior activation is built into the appliance at the time of cementation by the special spring loaded Telescopic rod and tube design.

The MSX-2000® is the brother of the MJX-2000® and is a totally spring loaded activated appliance requiring only recall observation visits. The MSX-2000® employs the spring loaded Telescopic rod and tube design bilaterally as does the MJX-2000® but replaces the midline jackscrew with this same spring loaded Telescopic rod tube mechanism. Due to the flexibility of the MSX-2000®, seating of the appliance is extremely easy.

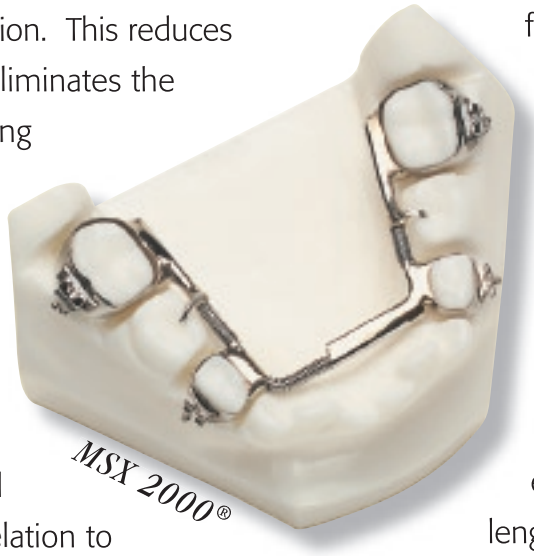
2

Both the MJX-2000® and MSX-2000® make use of previously designed orthodontic molar and first bicuspid bands adapted for deciduous first molars with their pre-welded buccal attachments which can be prespecified by the individual clinician to match his/her full bond armentarium. The design of the appliance is almost

totally lingual with the placement of the Telescopic rod tube spring mechanism at the same level as previously tolerated lingual holding arches. Nothing on this design approaches tissue support as seen with removable or bonded overlay expanders. The position is well tolerated by the patient and has shown to be extremely hygienic which means that the clinician no longer must be in a rush to activate and remove the appliance.

3

Because both the MJX-2000® and MSX-2000® have bands placed in a quad-pod position permanent and deciduous first molars it is more stable to occlusal traumas which might be received during mastication. This reduces and probably eliminates the leverage torquing which was causing early exfoliation of the deciduous second molars in the fixed Williams (no relation to author) expander. This added stability reduces the possibilities of tissue impingements as this is a totally tooth supported design.



4

Because both the MJX-2000® and the MSX-2000® have bands placed on the mandibular permanent first molars when the activations are completed and the clinician has developed the mandibular arch to the desired extent, the appliance serves as its own separators allowing for immediate band fitting and impressions for a mandibular 6 X 6 fixed lingual holding arch without concern of losing any arch length during holding arch construction.

5

The MJX-2000® spring loaded Telescopic rod tube design is perhaps the most friction free efficient mechanics which I have ever used. Due to the spring loaded Telescopic rod and tube design and midline jackscrew it is now possible to effectively gain arch-length in the bicuspid area while simultaneously developing inter-canine and inter-molar widths with the midline jackscrew. The protected sliding mechanics on the Telescopic design is stabilized in a 360 degree direction due to the close proximity of the tube and rod sizes which do not allow for flex or slack both of which could cause binding. In addition, I have added occlusal rests soldered onto the lingual molar tubes and rests on the lingual midline occlusal forssa of the deciduous second molar. This also aids in the stability of the appliance and allows for easy sliding of the Telescopic rod and tube mechanism. As a result of the rapid tooth movement seen with the spring loaded rod tube design, the MSX-2000® was developed to replace the jackscrew on the MJX-2000®.

The MAX-2000® was designed to take advantage of the high efficiency Telescopic rod tube spring loaded design. It is designed to be the mate of the MSX-2000® which only requires observation appointments as both the MAX-2000®

If you are interested in developing correct palatal morphology and congruent mandibular arch form and arch length reducing the necessity of dental extraction requirements, then we suggest that it would be beneficial to investigate the simplicity, versatility and ease of employment of the Series 2000® appliances. The 2000 Series appliances will allow you to provide the most efficient and comfortable force systems with the most proficient results while staying on the cutting edge in the application of the latest developments in orthodontic force system materials.

and MSX-2000® are activated at the time of cementation.

All three new designs in the 2000 Series make the most efficient use of the latest technology in nickel titanium open coil springs to provide the clinician with the most stability and control with trauma protected friction-free movement on the special Telescopic rod and tube design so as to allow for continuous non-binding movement and force distribution. It is this unique combination of the closely adapted Telescopic rod and tube size design mechanism with the nickel titanium coil spring force system that provides this unsurpassed quality of motion. Because the nickel titanium coils will not take a permanent set, it allows the clinician to preset the amount of force and arch length change desired prior to appliance placement so as not to require any further activations on the nickel titanium spring loaded activation sites throughout the entire treatment period. The use of the nickel titanium coil springs allows for a constant force distribution which is both extremely comfortable for the patient and also extremely efficient for the clinician allowing for concentration on more arduous tasks and also greater intervals between scheduled appointments.

Dr. Williams offers seminars on the Series 2000® Appliances

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