‘Bridging Science and Technology’

AAO to host its 115th annual session in San Francisco

What better site for a meeting focused on “Bridging Science and Technology” than San Francisco, the site of the historic Golden Gate Bridge and just north of Silicon Valley? The American Association of Orthodontists will host its 115th session at the famed Moscone Center in San Francisco from May 15-19.

AAO President Robert E. Varner, DMD, said the meeting’s education program will “encompass the latest information on every aspect of technology applicable to orthodontic clinical care and practice management, while also delving deeply into clinical topics and scientific advances on the horizon.” At the event, more than 100 doctors’ treatment of crowding and constricted archforms

By Dr. Mark J. Bentele

A 21-year-old male presented with a chief complaint of relapse of adolescent orthodontic treatment. He expressed an interest in clear aligner therapy for alignment and improved esthetics. Past medical history was unremarkable other than he was a nasal breather.

The examination showed a slightly convex profile with a long face. Lips were competent but the lower lip was slightly everted due to the position of the maxillary incisor (Figs. 1–3). TMJs and facial musculature were asymptomatic. CR-CO slide was within normal limits. Periodontal examination showed no recession and adequate attached tissue, with a PFS score of 1 with slight bleeding on probing upper right.

The patient had good oral hygiene. Third molars were absent, with moderate restorative history on teeth Nos. 2, 3, 4, 5, 13, 14 and 30 but no active caries. Areas of enamel hypoplasia and cervical decalcification were present.

The records taken included: photographs, a panoramic radiograph, centric occlusion bite registration and PVS impressions. The maxillary arch exhibited a mixture of crowding and spacing with a net of 0 mm arch length discrepancy. The mandibular arch exhibited 2.5 mm arch length discrepancy. The maxillary midline was right 1 mm and the mandibular midline left 1 mm.

The patient had a Class I right, Class I left (1 mm discrepancy) molar relationship, with a Class I right, end-on Class II left canine relationship. Transverse maxillary/mandibular archforms were narrow. The patient had an overjet of 4 mm and an overbite of 4 mm as well (Figs. 4-9). A ClearCorrect Unlimited Case was prescribed for treatment. Upon case submission, an improved upper midline was requested, along with an improved lower midline, which was limited due to crowding. We requested an idealized overjet, improved

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The paradox of quality treatment

By Dennis J. Tartakow, DMD, MEd, EdD, PhD, Editor in Chief

Doctors are educated to diagnose and treat health problems. Within these margins, most clinicians fulfill this role with patients very successfully. The traditional role of the doctor is carried out within a broader, historical, political and social context – where the diagnosis and treatment of system failures are as important as clinical interactions with individual patients. A doctor’s ability to improve health outcomes in an increasingly complex milieu will always be challenged, and the doctor must be willing to understand and influence this wider framework. Such understanding can be achieved by engaging in the emerging

See PARADOX, page 8
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overbite and improvement of the constricted arch forms. Molar relationships were to be maintained, and proclination of the mandibular incisors was requested. We requested #11 be distalized into a proper Class I relationship. In addition, we requested all spaces be closed and the teeth aligned.

ClearCorrect presented a treatment setup that estimated six phases of treatment or 24 sets of aligners. ClearCorrect ships its aligners in phases, each of which contains four sets of aligners. This makes for a flexible system and allows changes to be made mid-treatment, with no added cost to the office.

At the same time the treatment setup was received, a set of starter aligners was delivered to the patient, which fit well. The starter aligners help ease the patient into treatment before the first phase of aligners arrive. After review, the treatment setup was approved. The patient was instructed to wear each set of aligners, including his starter aligners, for three weeks and at least 22 hours a day.

Phase 1 was received from ClearCorrect, and the patient was given the first set of aligners at our office. The second set of aligners was given to the patient to be changed at home after three weeks. The patient returned to the office after six weeks to receive the third and fourth sets of aligners. During this first phase of treatment, facial translation of premolars and canines occurred.

When Phase 2 was received from ClearCorrect, engagers were placed on teeth Nos. 7, 10, 22 and 27, and 0.3 mm IPR was performed on the mesial/distal #27, using Raintree diamond discs and followed with Duraphat fluoride varnish. Henry Schein Natural Elegance Microhybrid composite was used for the engagers, as well as Natural Elegance Flowable and Natural Elegance Universal Bond.

The engager template was cut so that it only extended a tooth and a half past the engager on either side, allowing the template to fully seat while also making the template easier to remove. A stellite, a plastic filling instrument purchased from Henry Schein (Fig. 10), was used to peel the template off laterally, rather than pulling the template off vertically, which could potentially dislodge the newly placed engager. After placement of the engagers was completed, the patient received his fifth set of aligners and was also given his sixth set to take home. Primarily facial translation and rotation of incisors would occur during this phase of treatment.

The patient continued to come in every six weeks to receive new sets of aligners. During phase three, a contact check on tooth #27 was performed to ensure patient compliance and to check tracking of the teeth. Alignment of teeth Nos. 22 and 23 was completed during phase four, which completed the patient’s total treatment. Patient compliance was excellent throughout treatment, and there were no problems tracking or fitting of subsequent trays. The patient progressed more quickly than originally treatment planned and only needed four phases (16 sets of aligners) as opposed to six phases (24 sets of aligners).

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The patient was referred back to his general dentist, Dr. Steve Carlson of Vista Grande Dental Center, for anterior esthetic restorative treatment of tooth #8. Clearfil SE Bond was used, utilizing a layered technique with shade A1, Herculite and Ivoclar Vivadent Tetric EvoFlow. Due to change in shape of tooth #8, an in-house Essix aligner was fabricated for the maxillary arch, and the ClearCorrect supplied retainer was inserted for the mandibular arch. The patient was instructed to wear the retainers at nighttime indefinitely. We scheduled a follow-up appointment with the patient at one month, seven months and 19 months after treatment. The patient was very happy with the results.

The patient’s results truly speak for themselves, while also speaking to the effectiveness of clear aligner therapy.

About the author

DR. MARK J. BENTELE received his DDS from the University of Missouri, Kansas City School of Dentistry and graduated from an Air Force hospital General Practice Residency. He completed a three-year orthodontic residency at the Ohio State University College of Dentistry, receiving his certificate in orthodontics and master’s in science. He completed his Air Force career as chief of orthodontics, U.S. Air Force Academy, where he was also a member of a dental implant team, the craniofacial deformities board and a faculty member for the advanced education in general dentistry program. He retired from the Air Force as a colonel in 2007 and has been in private practice in Colorado Springs since then. Bentele is a member of the American Dental Association, the Colorado Dental Association, the Colorado Springs Dental Society, the American Association of Orthodontists and the American Cleft Palate Association.

Fig. 14
Fig. 15
Fig. 16
Fig. 17
Fig. 18