Special treats await

Multidisciplinary assessment of ortho treatment outcomes for the adult mutilated dentition

By Katie E. Miettunen, DDS, MS, and Orhan C. Tuncay, DMD

Abstract

Guidelines to evaluate adult orthodontic treatment outcomes do not exist. In this study, orthodontists, periodontists, and restorative dentists examined the pre- and post-treatment records of 10 adult mutilated dentition orthodontic patients. Study design employed both quantitative and qualitative research methods.

Two questionnaires were used to collect the data. The first was a visual analogue scale (VAS) to assess the overall result, occlusion, periodontal health, restorability, case difficulty and the degree of influence of American Board of Orthodontics (ABO) standards in participants’ judgment.

The second questionnaire asked open-ended questions related to orthodontic treatment outcome. The study results were: 1) periodontists and restorative dentists rated treatment results higher than orthodontists, 2) all specialists rate preferred orthodontic outcomes in the following order of importance: esthetics, occlusion, restorability, periodontal health and stability.

Background

In the absence of adult treatment guidelines, judgment of adult treatment outcomes is prejudiced by adolescent treatment guidelines of the American Board of Orthodontics (ABO). The Objective Grading System (OGS) used by the ABO relies on anatomical landmarks such as incisal edges, cusp tips, marginal ridges, etc. These landmarks are not easily identified in an adult dentition that exhibits worn incisal edges and cusp tips, restorations and/or missing teeth.
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It’ll feel like you’re at the beach when you stop by the OrthoBanc booth (No. 435), which features one of the most unique booth spaces you have ever seen — complete with pseudo-sand flooring, a tiki hut and traditional beach smells. Stop by and have a smoothie and enter a free iPad. You can also get an iTouch by signing up your practice with SorrisoOrtho.

• Do you need some extra brain power for your practice? Stop by the MME Consulting booth (No. 649), where the company provides technology planning and integration for orthodontists. (You can also pick up a squishy toy brain while you’re there.)

• Visit the Crest Oral-B, booth No. 1307, where you can receive a sample of the OrthoEssentials bag, which includes PRO-HEALTH System products. You’ll find additional booth incentives with purchase, such as big savings.

• Dr. Fresh (booth No. 1557) has all the things you need to keep your kids’ teeth happy, including a toothbrush, mirror, timer, floss, mirror, floss threaders, proxy brush and wax, and the pediatric product box, which includes a V-Trim toothbrush, travel toothbrush, floss, mirror, floss threaders, proxy brush case, mint wax and a two-minute timer.

• If you’ve brought your children to check out the AAO this year, you’re sure to find yourself at the KidSpace Interactive booth (No. 1941), where they can play some of the newest video games available for office waiting rooms. While you’re there, enter the free drawing to win an Xbox 360 Kinect Game System.

Tell us what you think!

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Here at the AAO: What to know

What
American Association of Orthodontists’ 112th Annual Session

When
Today through Tuesday

Where
Hawaii Convention Center, 1801 Kalakaua Ave., Honolulu

Online
www.aaomembers.org/mtgs/2012-AAO-Annual-Session.cfm

Exhibit hall hours
The exhibit hall is located in Level 1 of the Hawaii Convention Center.
• 8 a.m.–3:30 p.m. today and Monday
• 8 a.m.–2 p.m. Tuesday

Table clinics
7:30 a.m.–2:30 p.m. today, Monday and Tuesday

Scientific posterboard exhibits
9–11 a.m. today

Attire
The official dress code of the AAO is “Aloha Wear,” which includes aloha shirts, khakis and loafers for men and aloha shirts, khakis, skirts, city shorts, dresses, loafers and sandals for women.

C.E. Pavilion
While attending the AAO, record the lectures you attend and print your C.E. hours report at the C.E. Pavilion on the Level 3 Breezeway.

Shuttle schedule
The AAO shuttles will operate at 15-minute intervals in the mornings from 6 a.m. to 9 a.m. and late afternoons from 1 p.m. to 3:30 p.m., and at 30-minute intervals during mid-day from 9 a.m. to 1 p.m. every day.

The following hotels will have shuttle service: Hilton Hawaiian Village, Courtyard, Doubletree, Embassy Suites, Hilton Waikiki Beach, Hyatt Regency, Moana Surfrider, Royal Hawaiian, Sheraton Princess, Sheraton Waikiki and Waikiki Beach Marriott.

Please refer to the shuttle signage, which will be posted in each shuttle hotel, for hours of operation and special event details. Routing and pickup locations are subject to change.

Camp AAO
Children 6 months to 12 years old are welcome to participate in the Camp AAO on-site program. The activity center will be located at the Hawaii Convention Center, Room 321, and will be open daily.

Children ages 6 to 12 have the opportunity to participate in educational youth tours as well. The tours depart and return to the on-site activity center each day.

Those children participating in tours also have the option to sign up for hourly on-site attendance prior to and following the tour. An hourly rate will apply. The youth tour program will include visits to Waikiki Aquarium, Honolulu Zoo, Bishop Museum, Dole Pineapple Plantation and the Hawaii Children’s Discovery Center.

Camp AAO activity center hours are from 6:30 a.m.–3 p.m. daily. Youth tour hours are 9 a.m.–12:30 p.m. daily.

For more information, visit www.accentregister.com/register/campAAO12 or call (504) 524-0188.

Professional lecture recordings
Most of the lectures presented at this conference will be audio recorded and available as a package set on a DVD ROM in MP3 format. Most of these recorded lectures will also include the speaker’s screen presentation as an integrated synchronized file.

On-site orders will be available for $158 (includes shipping).

Giving back
Annual session attendees will have an opportunity to “give back” to the Honolulu community by aiding hungry residents of Oahu. The annual session “Virtual Food Bank” kiosk on Level 2 of the Convention Center will accept contributions and provide receipts for donations. All funds contributed will go to a local food bank.

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Moreover, patients with a mutilated dentition often have interproximal bone loss and uneven wear on posterior teeth, which may require the orthodontist to level the bone and reshape teeth to maintain occlusal contacts.

Of those adults seeking orthodontic treatment, only about 30 percent require orthodontic treatment alone, 45 percent require the service of another dental specialist and 25 percent require the services of multiple dental specialists.

The aims of this qualitative and quantitative investigation were:
- To determine if orthodontic treatment outcomes are evaluated consistently by individual examiners of different specialties.
- To determine which factors are considered most important by practicing orthodontists, periodontists and restorative dentists for the evaluation of the quality of adult orthodontic treatment outcomes of patients with a mutilated dentition.

Subject selection
Following IRB approval, the subjects were selected from the existing records of consecutively treated patients who finished treatment at Temple University in the department of orthodontics within the last three years. Inclusion criteria for the patients were:
- 18 years of age or older.
- Two or more missing teeth.
- No active periodontitis.
- Good cooperation during treatment.

Examiner selection
The evaluators selected were dental academics at Temple University with demonstrated excellence in their field. They also had credentials in research and publication. Nine orthodontic faculty members, three periodontology faculty members and three faculty members from the restorative dentistry department served as evaluators.

First, the evaluators rated the outcome on a continuous visual analogue scale (VAS). The orthodontic evaluators were additionally asked if they based their judgment on ABO standards or by what is reasonably achievable for the patient. A second round of data collection was designed to obtain qualitative data from all evaluators through the use of an open-ended questionnaire.

Data analysis
This study was designed to collect both quantitative and qualitative data. The consistency among individual evaluators was evaluated. Judgment of final outcome of orthodontic treatment involves an aesthetic component that is subjective in nature. The open-ended questions offered insight into the factors deemed most important to assess the outcome of orthodontic treatment.

Results
Consistency was noted among individual examiners, but each group showed unique priorities of weighing specific factors related to treatment outcome.

Orthodontists were more critical than periodontists and restorative dentists to judge the overall result and post-treatment occlusion.

Periodontists were the most critical group to evaluate the post-treatment periodontal condition.

When rating restorability, on average the restorative dentists gave the highest rating indicating a high level of confidence in case restorability.

Orthodontists and periodontists were more critical when rating long-term stability of orthodontic treatment compared to restorative dentists.

Periodontists and restorative dentists were less critical when judging post-treatment occlusion.

Orthodontists, periodontists and restorative dentists rated preferred orthodontic outcomes in the following order of importance: esthetics, occlusion, restorability, periodontal health and stability.

When judging treatment goals for the adult mutilated dentition, orthodontists tended to blend what is optimal as described by the ABO guidelines with what is reasonably achievable for the patient.

Conclusion
Orthodontists, periodontists and restorative dentists rate esthetics – a high-priority qualitative entity – as the most important factor to judge orthodontic treatment outcome. The OGS excludes this critical criterion. We are tempted to suggest the results of this study might serve as the foundation to develop adult orthodontic treatment guidelines.

References