

# CONTINUING EDUCATION

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## Learning Objectives

After completion of this exercise, the participant will be able to:

1. Follow a digital protocol for design and fabrication of a Herbst appliance.
2. Outline potential treatment plans for young patients with impacted maxillary canines.
3. Compare the accuracy of tooth movements with 3M Clarity aligners to the accuracy reported for other clear aligner systems.
4. Discuss a proposed classification system for temporary anchorage devices (TADs).

## Article 1

Manni, A.; Campobasso, A.; Annarumma, F.; Arnò, F.; and Battista, G.: *Fully Digital Design and Fabrication of a Telescoping Herbst Appliance* (pp. 318-326)

1. The Manni Telescoping Herbst (MTH) appliance consists of a fixed transpalatal arch connected by two telescoping rods to:
  - a) a mandibular lip bumper
  - b) a mandibular acrylic splint
  - c) bonded brackets on the mandibular canines
  - d) buccal miniscrews inserted near the mandibular premolars
2. In the authors' protocol, the required extent of mandibular advancement is determined using:
  - a) the esthetic Fränkel maneuver
  - b) Appliance Designer CAD
  - c) the Ortho Control panel
  - d) a digital parallelometer
3. The parameters and geometries of the transpalatal arch are designed using the:

- a) Create Shell command
  - b) Modify Model/Wax Knife substep
  - c) Ortho Control panel
  - d) Rhinoceros CAD program
4. Parallel placement of the Herbst axles is ensured by using:
    - a) the esthetic Fränkel maneuver
    - b) Appliance Designer CAD
    - c) the Ortho Control panel
    - d) a digital parallelometer

## Article 2

Lau, B.: *Central-Incisor Substitution for Management of an Impacted Upper Canine* (pp. 327-335)

5. The reported incidence of upper-canine impaction is:
  - a) .5-1.1%
  - b) 1.5-2.2%
  - c) 2.1-3.5%
  - d) 4.2-5.3%
6. Ectopically erupting upper canines can lead to any of the following except:
  - a) damage to adjacent roots
  - b) tooth transpositions
  - c) anterior open bite
  - d) disruption of the overall occlusion
7. This patient's treatment plan called for extraction of the:
  - a) upper right first premolar
  - b) lower second premolars
  - c) upper left central incisor
  - d) all of the above
8. The upper left lateral incisor was maintained instead of the central incisor because it had:

- a) a better long-term prognosis
- b) a better esthetic appearance
- c) more extensive root resorption
- d) a longer root

**Article 3**

Taebi-Harandy, M.; Mehta, S.; Warren, E.; Feldman, J.; and Yadav, S.: *Outcomes Associated with 3M Clarity Aligners* (pp. 344-352)

- 9. The study sample included 32 patients with:
  - a) mild malocclusions
  - b) extraction treatment plans
  - c) skeletal Class II malocclusions
  - d) Class II or Class III malocclusions
- 10. Differences between predicted and achieved horizontal movements using 3M Clarity aligners were not statistically significant in either arch except for the:
  - a) mandibular second premolars
  - b) mandibular central incisors
  - c) maxillary and mandibular incisors
  - d) maxillary lateral incisors
- 11. Transverse movements were found to be accurate except for:
  - a) mandibular interpremolar width
  - b) mandibular intercanine width
  - c) maxillary interpremolar width
  - d) maxillary intercanine width
- 12. The least predictable tooth movements were:
  - a) horizontal
  - b) rotational

- c) transverse
- d) vertical

**Article 4**

Derton, N.; Cremonini, F.; Arveda, N.; Lombardo, L.; and Palone, M.: *Classification of Temporary Anchorage Devices in Orthodontics* (pp. 353-356)

- 13. The term “TADs” was coined by:
  - a) Bowman
  - b) Mah
  - c) Cope
  - d) Graham
- 14. In the authors’ proposed classification system, palatal TADs can be either:
  - a) median or paramedian
  - b) unguided or guided
  - c) extraradicular or interradicular
  - d) crestal or lingual
- 15. In the maxillary arch, unguided TADs can be inserted in any of the following sites except the:
  - a) vestibule
  - b) tuber
  - c) palate
  - d) retromolar area
- 16. Lingual insertion of TADs should be avoided in the mandibular arch because of the:
  - a) presence of lingual nerves
  - b) limited extension of the vestibular fornix
  - c) emergence of the mental nerve from the mental foramen
  - d) all of the above