

# CONTINUING EDUCATION

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## Learning Objectives

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

1. Review biomechanical strategies for effective management of second molars.
2. Follow a protocol for alternating rapid maxillary expansion and constriction (Alt-RAMEC) prior to facemask therapy in growing skeletal Class III patients.
3. Describe the advantages and limitations of the Angel Aligner system.
4. Discuss the skeletal and dentoalveolar effects of three-dimensionally printed Hyrax expanders.

## Article 1

Anthony, R.; Baviskar, B.P.; Raj, V.; and Abass, S.: *Biomechanical Principles and Techniques for Management of Maxillary and Mandibular Second Molars* (pp. 95-108)

1. Ideal buccolingual positioning of the mandibular second molars is essential in:
  - a) maintaining the curve of Wilson
  - b) establishing maximum intercuspation
  - c) avoiding balancing interferences
  - d) all of the above
2. In most commonly used prescriptions, placing a lower second molar tube (without flipping) on an upper second molar adds:
  - a) buccal root torque
  - b) lingual root torque
  - c) buccal inclination
  - d) lingual inclination
3. An inverted second molar tube can be used to correct:

- a) a buccally tipped upper second molar
  - b) an upper second molar in Brodie bite
  - c) a lingually tipped lower second molar
  - d) a mesially inclined lower second molar
4. Correction of a mesially inclined lower second molar can be facilitated by incorporating a helix in the archwire and:
    - a) adding intermaxillary cross-elastics from a lingual button on the upper molar
    - b) temporarily removing the adjacent first molar tube
    - c) discluding the arches with bite blocks or bite turbos
    - d) adding a modified transpalatal arch with lingual traction

## Article 2

Jenhani, M.; Ben Amor, W.; Dalel, I.; Tobji, S.; and Ben Amor, A.: *Alt-RAMEC Protocol with Facemask Protraction for Treatment of Skeletal Class III Malocclusion in a Growing Patient* (pp. 108-117)

5. Facemask therapy is almost unanimously recommended for growing patients with skeletal Class III malocclusions involving:
  - a) maxillary deficiency
  - b) mandibular deficiency
  - c) posterior crossbite
  - d) sleep-related disorders
6. According to Melsen and colleagues, the facemask is most effective in the:
  - a) deciduous dentition
  - b) early mixed dentition
  - c) late mixed dentition
  - d) a or b

7. Compared with conventional maxillary protraction, the Alt-RAMEC protocol produces less:

- a) sutural distraction
- b) clockwise rotation of the maxilla
- c) anterior rotation of the mandible
- d) both b and c

8. Özbilen and colleagues recommend starting the Alt-RAMEC protocol as early as possible to minimize adverse:

- a) dentoalveolar effects
- b) vertical effects
- c) effects on the adjacent tissues
- d) narrowing of the airway

**Article 3**

Scuzzo, G.; Scuzzo, G.; and Alvarado Lorenzo, A.: *Angel Aligner Innovations for Unilateral Molar Distalization* (pp. 118-130)

9. Third-generation Angel Aligners are made from a proprietary multilayer polymer called:

- a) SmartTrack
- b) ComfortTrack
- c) masterControl S
- d) PolyFlex

10. Angel Aligner protocols include all of the following except:

- a) maxillary protraction
- b) mandibular advancement
- c) premolar extraction
- d) maxillary posterior distalization

11. The half-wrap maxillary second molar design is intended to improve force transfer during:

- a) habit therapy
- b) mandibular advancement
- c) space closure
- d) staged distalization

12. The virtual Roots 2.0 feature is designed to:

a) integrate with cone-beam computed tomography

b) generate root representations from standard panoramic radiographs

c) add root torque in virtual treatment planning

d) fully automate cephalometric tracing and analysis

**Article 4**

Woolley, J.J. and Cousley, R.R.J.: *Skeletal and Dental Effects of 3D-Printed Rapid Maxillary Expansion Appliances: A CBCT Study* (pp. 132-140)

13. The expanders used in this study were 3D-printed using:

- a) stereolithography
- b) laser sintering
- c) fused deposition modeling
- d) material jetting

14. The greatest mean sutural opening was at the:

- a) crestal bone between the central incisors
- b) anterior nasal spine
- c) level of the first molar palatal root apex
- d) level of the first premolar palatal cusp

15. The greatest mean sutural expansion efficiency was at the:

- a) crestal bone between the central incisors
- b) anterior nasal spine
- c) level of the first molar palatal root apex
- d) level of the first premolar palatal cusp

16. The authors attributed a V-shaped maxillary expansion pattern to:

- a) posterior resistance of the pterygoid plates
- b) the central position of the expansion screw relative to the maxilla's center of resistance
- c) the 3D-printing process
- d) both a and b