

# CONTINUING EDUCATION

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## Learning Objectives

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

1. Compare treatment options for patients with idiopathic condylar resorption.
2. Discuss the use of the Invisalign mandibular advancement (MA) feature in treatment of growing Class II, division 1 patients.
3. Describe the application of a three-dimensionally printed hybrid Keles Keyless Expander (KKE).
4. Review the manifestations of Ehlers-Danlos syndrome (EDS).

## Article 1

Palesik, B.; Vaitiekūnas, M.; Stacevičius, M.; and Latkauskienė, D.: *Response of Idiopathic Condylar Resorption to Unilateral Class II Traction* (pp. 157-165)

1. Condylar resorption is most common between the ages of:
  - a) 5 and 8
  - b) 10 and 15
  - c) 15 and 35
  - d) 25 and 50
2. Potential causes of primary or secondary condylar resorption may include any of the following with the exception of:
  - a) hormonal changes
  - b) type 2 diabetes
  - c) avascular necrosis
  - d) osteoarthritis
3. During the first stage of condylar resorption:
  - a) cortical bone is lost along the anterosuperior surfaces of the condyles

- b) subchondral bone is lost in the condyles
  - c) the articular surfaces of the condyles are flattened
  - d) the mandible moves backward
4. A study by De Clerck and colleagues of the use of elastic traction from Bollard plates in growing Class III patients demonstrated:
    - a) bone apposition at the anterior eminence of the TMJ
    - b) progressive condylar resorption
    - c) correction of mandibular asymmetry with unilateral traction
    - d) both a and c

## Article 2

Ceylanoğlu, S.T.; Ceylanoğlu, C.; and Alcan, T.: *Treatment of a Class II, Division 1 Malocclusion and Ectopic Canines with Invisalign Mandibular Advancement and the Bootstrap Technique* (pp. 166-176)

5. The proportion of skeletal to dental effects achieved with functional appliances can be influenced by:
  - a) the timing of treatment
  - b) the mode of mandibular advancement
  - c) the type and rigidity of the appliance
  - d) all of the above
6. In McNamara and colleagues' cervical vertebral maturation staging system, peak pubertal growth occurs during:
  - a) CS 1
  - b) CS 2
  - c) CS 3 and 4
  - d) CS 5 and 6

7. With the Invisalign MA feature, Class II correction can begin as early as the:

- a) pre-aligner stage
- b) first set of aligners
- c) end of the pubertal growth peak
- d) refinement stage

8. Extrusion with clear aligners has a reported accuracy of:

- a) 30%
- b) 45%
- c) 67%
- d) 80%

### Article 3

Keles, A.; Keles, E.; Kayalar, E.; Ozcan, M.; and Akyalçin, S.: *3D-Printed Hybrid Keyless Expander for Maxillary Expansion and Protraction* (pp. 180-188)

9. Clinically, a maxillary deficiency usually appears in the form of a:

- a) posterior crossbite
- b) severe overjet
- c) Class III molar relationship
- d) midline discrepancy

10. The KKE shown here is considered a hybrid version because it is:

- a) 3D printed
- b) keyless
- c) used with miniscrew anchorage
- d) used with clear aligners

11. The KKE is activated by:

- a) turning the midpalatal jackscrew
- b) turning the activation arm with a finger
- c) advancing the jackscrew in the clinic
- d) repositioning the attached elastics

12. Reported potential side effects of rapid palatal expansion include all of the following except:

- a) dental tipping
- b) alveolar bending
- c) root resorption
- d) white-spot lesions

### Article 4

Kravitz, N.D.; Noble, J.; and Grimsley, B.R.: *Carotid Aneurysm Associated with Likely Ehlers-Danlos Syndrome* (pp. 206-208)

13. EDS is caused by abnormalities in:

- a) the connective tissues of the skin, joints, and blood vessels
- b) collagen and other proteins
- c) the connective tissue's extracellular matrix
- d) all of the above

14. Complications of EDS may include any of the following except:

- a) chronic pain
- b) arthritis
- c) diabetes
- d) organ ruptures

15. Orthodontic management of patients with EDS should aim to:

- a) minimize TMJ strain
- b) emphasize the use of functional appliances
- c) avoid the use of fixed retainers
- d) all of the above

16. The most common type of EDS is:

- a) classical
- b) hypermobile
- c) kyphoscoliotic
- d) vascular