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Learning Objectives

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

1. Outline trends in orthodontic diagnostic and treatment procedures since 1986.
2. Discuss the possibility of treating unilateral condylar hyperplasia (UCH) with proportional condylectomy followed by orthodontic aligner therapy.
3. Describe a method of intrusion supported by palatal skeletal anchorage for maxillary vertical control in hyperdivergent patients.
4. Combine the Carriere Motion Appliance with skeletal anchorage in treatment of a Class II, division 1 malocclusion.

Article 1

Keim, R.G.; Vogels, D.S. III; and Vogels, P.B.: *2020 JCO Study of Orthodontic Diagnosis and Treatment Procedures* (pp. 581-610)

1. Between the 2014 and 2020 JCO studies, routine pretreatment usage of digital intraoral scanners changed from 12% to:
 - a) 10%
 - b) 20%
 - c) 36%
 - d) 56%
2. The most popular type of palatal expander in the current Study was the:
 - a) Hyrax
 - b) Quad Helix
 - c) Haas
 - d) W arch
3. The percentage of respondents who reported

using more than one type of initial archwire was:

- a) 14%
 - b) 63%
 - c) 77%
 - d) 84%
4. Temporary anchorage devices were used most routinely for:
 - a) molar distalization
 - b) molar intrusion
 - c) molar protraction
 - d) correction of occlusal-plane cant

Article 2

Cascone, P.; Cicero, B.; Ramieri, V.; Germanò, F.; and Vellone, V.: *Treatment of Unilateral Condylar Hyperplasia with Proportional Condylectomy and Orthodontic Aligners* (p. 611-619)

5. In cases involving UCH, single-photon emission computed tomography scans are especially useful in evaluating:
 - a) pathological bone metabolism
 - b) facial asymmetry
 - c) arthrosis
 - d) hemimandibular elongation
6. In this study, aligner treatment was initiated seven days after the proportional condylectomy to take advantage of the:
 - a) patient's remaining growth
 - b) regional acceleratory phenomenon
 - c) postsurgical healing process
 - d) alveolar support for intermaxillary elastics
7. After orthodontic aligner treatment, canted occlusal planes had been corrected in:
 - a) six of 14 patients

- b) six of eight patients
 - c) eight of 11 patients
 - d) 11 of 14 patients
8. Compared with traditional postsurgical orthodontic treatment of UCH patients, aligners have the advantage of:
- a) being more esthetic
 - b) maintaining free space to allow lateral and protrusive movements toward the affected side
 - c) enabling different approaches in individual arch segments without involving other teeth
 - d) all of the above

Article 3

Azami, N.; Nanda, R.; and Uribe, F.: *Effective Vertical Control of the Entire Maxillary Arch with a Palatal TAD-Supported Appliance* (pp. 620-629)

9. In a patient with a hyperdivergent growth pattern, leveling a steep occlusal plane with preadjusted brackets can result in:
- a) reduced masticatory muscle volume
 - b) counterclockwise rotation of the mandible
 - c) extrusion of the molars
 - d) intrusion of the anterior segments
10. For balanced intrusion, the line of force application should:
- a) pass through the center of rotation of the unit being intruded
 - b) pass through the center of resistance of the unit being intruded
 - c) be applied at the level of the first-molar tubes
 - d) generate differential moments
11. The customized splint presented by the authors is attached to:
- a) a palatal C-tube miniplate
 - b) two mini-implants in the palatal shelves
 - c) three mini-implants aligned anteroposteriorly in the midpalatal suture
 - d) four mini-implants in the palatal shelves
12. In the case shown here, intrusion of the entire maxillary arch was designed to:

- a) promote forward mandibular autorotation
- b) address the patient's lip incompetency
- c) correct an excessive gingival display
- d) all of the above

Article 4

Fouda, A.S.; Aboufotouh, M.H.; Attia, K.H.; and Abouelezz, A.M.: *Carriere Motion Appliance with Miniscrew Anchorage for Treatment of Class II, Division 1 Malocclusion* (pp. 633-641)

13. The Carriere Motion Appliance is designed to be used in Class II treatment:
- a) before fixed appliances are placed
 - b) in combination with fixed appliances
 - c) in combination with clear aligners
 - d) in conjunction with premolar extractions
14. The authors used skeletal anchorage to:
- a) promote mandibular autorotation
 - b) distalize the upper posterior segments
 - c) limit the side effects of Class II elastics in the lower arch
 - d) avoid the need for premolar extractions
15. The lower second molars were banded instead of the first molars to:
- a) increase the horizontal force component of the Class II elastics
 - b) reduce the vertical force component of the Class II elastics
 - c) avoid mesial movement of the lower first molars
 - d) both a and b
16. After leveling and alignment, the miniscrews were removed and reinserted between the upper second premolars and first molars to:
- a) avoid overloading the upper posterior segments during anterior retraction
 - b) avoid flaring of the lower incisors
 - c) limit the side effects of Class II elastics in the upper arch
 - d) all of the above