CONTINUING EDUCATION

The East Carolina School of Dental Medicine will award 3 hours of Continuing Education credit for reading this issue of JCO and answering at least 12 of the following 16 questions correctly. Take this test online at www.jco-online.com (click on Continuing Education); payment of $25 is required by VISA or MasterCard. The test may be retaken once if not passed on the first attempt. Correct answers will be supplied immediately, along with a printable certificate. Tests will be accessible on the JCO website for 12 months after publication. A subscription to JCO is not required to earn C.E. credits. For information, contact Dr. Neal Kravitz; e-mail: editor@jco-online.com. CER Code: JCO July 2023.

Learning Objectives

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

1. Describe modifications and improvements to the InBrace system Generation 2.0.
2. Discuss the effectiveness of low-level laser therapy (LLLT) in accelerating canine movement in adolescent patients.
3. Follow a protocol for orthodontic space opening and implant-supported restoration in nongrowing patients with congenitally missing upper lateral incisors.
4. Compare various methods of closing anterior open bites without orthognathic surgery.

Article 1

Weissheimer, A.; Lee, R.J.; Pham, J.; Tong, H.; and Redmond, W.R.: *Clinical Overview of InBrace Generation 2.0* (pp. 376-388)

1. Instead of the locking loops used in InBrace Gen 1.0, the Gen 2.0 system uses:
   a) interproximal (IP) loops
   b) lockets
   c) InGagers
   d) digital enhancement (DE) Smartwires
2. The virtual setup programs tooth movements in all six degrees of freedom into the:
   a) IP loops
   b) lockets
   c) locking loops
   d) brackets
3. The purpose of treatment stage I is to:
   a) bond all brackets in their planned positions
   b) perform interproximal reduction, if needed
   c) allow Smartwire 1 to fully express
   d) all of the above
4. Smartwires used in the DE stage may include:
   a) Smartwire 1
   b) Smartwires 2 or 3
   c) DE Smartwires 1, 2, or 3
   d) any of the above

Article 2

Manikandan, J.; Pawar, R.; Ganiger, C.; Phaphe, S.; and Ronad, Y.A.: *Effect of Low-Level Laser Therapy on the Distalization of Maxillary Canines in Adolescents* (pp. 389-396)

5. Nonsurgical physical modalities for accelerating tooth movement have included all of the following except:
   a) LLLT
   b) electromagnetic fields
   c) electrical stimulation
   d) mechanical vibration
6. LLLT reportedly accelerates tooth movement by:
   a) increasing the turnover rate of osteoblasts and osteoclasts
   b) stimulating osteoblastic mitotic activity
   c) promoting vascularization of the capillaries in the bone
   d) all of the above
7. In this study, between day 1 (T1) and day 42 (T3), the average daily canine distalization on the LLLT side was:
   a) .005mm
   b) .025mm
   c) .6mm
   d) 1.05mm

8. Compared with the control side, the rate of canine movement on the LLLT side was:
   a) about half as fast
   b) about the same
   c) nearly twice as fast
   d) more than three times as fast

Article 3

Maldonado Molina, O.A.: *Orthodontics and Dental Implants in the Esthetic Zone* (pp. 411-417)

9. In planning treatment for patients with congenitally missing upper lateral incisors, the primary consideration is:
   a) the intermaxillary skeletal relationship
   b) the cost-benefit ratio
   c) conservation of tooth structure
   d) facial and smile esthetics

10. In a growing patient with a missing upper lateral incisor, if space is opened orthodontically for a dental implant:
   a) a transitional prosthesis will be needed
   b) the risk of infra-occlusion increases
   c) extensive follow-up esthetic treatment will be needed
   d) all of the above

11. Implant restoration of missing lateral incisors has demonstrated relatively high success rates when there is at least 2mm of buccal bone available horizontally for:
   a) biological width
   b) profile and structural support
   c) restoration contour
   d) bone grafting

12. Malocclusions that particularly favor canine substitution over implant-supported restoration of a missing upper lateral incisor include:
   a) Class I with severe mandibular crowding that requires extractions
   b) Class II with no mandibular crowding
   c) Class III with no maxillary crowding
   d) both a and b

Article 4

Sharara, S. and Bister, D.: *Anterior Open-Bite Treatment Using Palatal Temporary Anchorage Devices and a Double Transpalatal Arch* (pp. 418-425)

13. The etiology of anterior open bite may include any of the following except:
   a) periodontal issues
   b) soft-tissue factors
   c) oral habits
   d) the patient's skeletal pattern

14. Each patient in this study had two temporary anchorage devices inserted:
   a) in the maxillary infrazygomatic crest
   b) on either side of the midpalatal suture
   c) in the palatal interradicular area
   d) in the mandibular retromolar region

15. Of the 20 patients who completed full active treatment, a positive overbite was achieved in:
   a) three
   b) 10
   c) 17
   d) 19

16. Counterclockwise rotation of the mandible was confirmed by statistically significant reductions in ANB, MMPA, and:
   a) LAFH
   b) SNB
   c) TPA
   d) U6-PP