

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. Robert Keim, (213) 740-0410; e-mail: editor@jco-online.com. CER Code: JCO April 2019.

Learning Objectives

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

1. Compare a new lingual appliance system with other alternatives for esthetic treatment.
2. Utilize a specially designed metal button for elastic attachment to clear aligners.
3. Discuss the use of direct and indirect mini-implant anchorage for segmental mechanics in preprosthodontic treatment.
4. Describe the effects of a portable device for transcutaneous electrical nerve stimulation on orthodontic-related pain.

Article 1

Tong, H.; Weissheimer, A.; Pham, J.; Lee, R.; and Redmond, W.R.: *Lingual Orthodontics Redefined with Automation and Friction-Free Mechanics* (pp. 214-224)

1. The two types of loops in the nickel titanium Smartwire are:
 - a) opening and closing
 - b) interdental and locking
 - c) straight and crimpable
 - d) anterior and posterior
2. The .014" or .016" Smartwires can move teeth efficiently with light, continuous forces because:
 - a) there is no force loss due to friction
 - b) they are heat-activated
 - c) there is no prescription in the brackets
 - d) no auxiliaries are needed
3. The self-ligating springboard bracket is used for:
 - a) all teeth
 - b) all mandibular teeth

- c) all maxillary teeth and all mandibular posterior teeth
 - d) all anterior teeth
4. Overcorrection is usually required for:
 - a) deep or open bites
 - b) transverse dental expansion
 - c) significant deviations in tip or torque
 - d) any of the above

Article 2

Cetta, C.N. and Kaye, R.A.: *A Reimagined Button for Elastic Attachment to Clear Aligners* (pp. 225-226)

5. Previous options for elastic attachment to Invisalign G3 aligners have included all of the following except:
 - a) stainless steel canine brackets
 - b) stainless steel Caplin hooks
 - c) composite resin buttons
 - d) porcelain ceramic buttons
6. The major disadvantage of a precut aligner hook is that it:
 - a) is milled into the aligner
 - b) is designed to fit the center of the tooth occlusogingivally
 - c) can unseat the aligner when heavier elastic forces are used
 - d) can break off from chewing
7. A disadvantage of the stainless steel lingual button is that it:
 - a) has a mushroom-shaped projection for attaching elastics
 - b) provides only a small surface area for bonding retention

CONTINUING EDUCATION

c) cannot be bonded to the cervical third of the facial surface

d) both b and c

8. The proprietary base of the Precision Aligner Button is designed to:

a) avoid detachment from elastic forces

b) conform precisely to the prefabricated aligner cutout window

c) fit the cervical third of the tooth instead of the center of the crown

d) all of the above

Article 3

Rugină, R.: *Segmental Orthodontics for Space Calibration in Preprosthodontic Treatment* (pp. 227-233)

9. If a lower first molar is missing, the adjacent second molar tends to:

a) tip mesially as the upper first molar extrudes

b) tip distally as the open space is reduced

c) intrude due to premature contact with the upper first molar

d) all of the above

10. To prepare for prosthodontic restoration of the missing lower first molar, the orthodontic force system needs to:

a) mesially tip and intrude the adjacent lower second molar

b) mesially tip and extrude the adjacent lower second molar

c) distally upright and intrude the adjacent lower second molar

d) distally upright and extrude the adjacent lower second molar

11. The mini-implants inserted for anchorage in this case were:

a) two buccal in each arch

b) two buccal in each arch and two palatal

c) two lower buccal and two palatal

d) two upper and four lower buccal

12. Indirect anchorage from the buccal mini-implants was created with:

a) elastomeric chains

b) .019" × .025" stainless steel wire segments

c) open-coil springs

d) step-down bends and tipbacks

Article 4

Haralambidis, C.: *Pain-Free Orthodontic Treatment with the Dental Pain Eraser* (pp. 234-242)

13. Methods proposed for relief of orthodontic pain include all of the following except:

a) chewing gum

b) vibratory forces

c) low-level laser therapy

d) ultrasound therapy

14. Compared with the control group, patients treated with transcutaneous electrical nerve stimulation in this study reported:

a) a significant reduction in pain after initial application

b) a significant reduction in pain, but only 48 hours after application

c) no reduction in pain

d) an increase in pain 48 hours after application

15. Patients in this study reported the greatest effect of orthodontic pain on quality of life to be related to:

a) productivity

b) duration and quality of sleep

c) ability to perform oral hygiene

d) comfort in chewing

16. Immediate pain response after orthodontic force application has been attributed to:

a) hyperalgesia of the periodontal ligament

b) the effects of prostaglandins

c) compression

d) the release of endorphins