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AUGUST 2022 LEARNING OBJECTIVES:

After completing this course, the participant will have:

1. Familiarity with the possible influence on the accuracy of digital models from intraoral and extraoral scans by the presence of orthodontic brackets.
2. Knowledge concerning the dentoskeletal effects of clear aligners and miniplate-supported posterior intrusion with fixed appliances to close open bites in adult patients.
3. Awareness of the potential influence of water fluoride concentration on orthodontic root resorption.
4. An understanding of any differences in retainer failure and post-treatment stability between an indirect vs direct bonding method for placement of a mandibular fixed retainer.

Article 1: Impact of orthodontic brackets on intraoral and extraoral scans, by Eduardo Otero Amaral Vargas et al

1. The purpose of this study was to evaluate the influence of orthodontic brackets in intraoral and extraoral scanning by comparing measurements from dental casts of extraoral and intraoral digital models from the same patient.
 1. True
 2. False
2. Intermolar, intercanine, and mesiodistal widths of all the teeth were measured in the maxillary and mandibular arches.
 1. True
 2. False
3. The authors reported only mild statistically significant differences between the 3 types of model measurements.
 1. True
 2. False
4. The authors concluded that brackets bonded to teeth affected intraoral scanning; however, the intraoral digital models are clinically comparable and present fewer distortions than plaster models.
 1. True
 2. False

Article 2: A comparative assessment of the dentoskeletal effects of clear aligners vs miniplate-supported posterior intrusion with fixed appliances in adult patients with anterior open bite. A multicenter, retrospective cohort study, by Brett Peter Steele et al

5. This study aimed to retrospectively evaluate the dentoskeletal effects of clear aligners (Invisalign) vs miniplate-supported posterior intrusion and identify factors affecting posttreatment overbite in adults with anterior open bite.
 1. True
 2. False
6. Pretreatment and posttreatment lateral cephalograms were blindly analyzed using 9 linear and 11 angular cephalometric measurements.
 1. True
 2. False
7. The authors reported that miniplate-supported posterior intrusion accomplished adult open bite closure by significant molar intrusion and forward counterclockwise mandibular rotation.
 1. True
 2. False
8. The authors reported that Invisalign accomplished adult open bite closure by maxillary and mandibular incisor extrusion, and mild maxillary and mandibular molar intrusion results in counterclockwise mandibular rotation.
 1. True
 2. False

Article 3: Physical properties of root cementum: Part 28. Effects of high and low water fluoridation on orthodontic root resorption: A microcomputed tomography study, by Chelsea Mann et al

9. This study aimed to investigate the effects of high vs low concentrations of prescribed fluoride medication on orthodontic root resorption using a clinically applicable human orthodontic model.
 1. True
 2. False
10. The tested experimental sample comprised 28 maxillary first premolars scheduled for orthodontic extraction buccally tipped for 12 weeks before their extraction.
 1. True
 2. False
11. The authors reported that the low fluoride group had greater mean root resorption on the palatal root surface than the high fluoride group.
 1. True
 2. False

12. The authors concluded that high water fluoride exposure reduces orthodontic root resorption, but the high 2 ppm water fluoridation may result in fluorosis.

1. True
2. False

Article 4: Indirect vs direct bonding of mandibular fixed retainers in orthodontic patients: Comparison of retainer failures and posttreatment stability. A 5-year follow-up of a single-center randomized controlled trial, by Marie A. Cornelis et al

13. This 2-arm parallel trial aimed to assess the number of failures of mandibular fixed retainer bonded with direct and indirect bonding methods at a 5-year follow-up and investigate the stability of intercanine and interpremolar distances.

1. True
2. False

14. Mandibular lingual canine-to-canine retainers were constructed in the laboratory using 0.032-in stainless steel wire and bonded to the canine teeth intraorally.

1. True
2. False

15. The authors reported that the intercanine and interpremolar distances did not change significantly over the 5-year follow-up.

1. True
2. False

16. The authors concluded that the 5-year survival rate for retainers bonded with direct and indirect bonding methods was 46%, without statistically significant differences between the 2 methods.

1. True
2. False