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Learning Objectives

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

1. Compare the efficacy of Align's Power Ridges to conventional appliances in torquing upper incisors.
2. Consider sandblasting of fluorosed enamel as an alternative to application of an adhesion booster.
3. Evaluate the benefits of treating unilateral condylar hyperplasia during its active phase.
4. Describe the use of MICRO Hyrax expanders in adolescent and young adult patients.

Article 1

Castroflorio, T.; Garino, F.; Lazzaro, A.; and Debernardi, C.: *Upper-Incisor Root Control with Invisalign Appliances* (pp. 346-351)

1. A study of various .022" brackets and .019" × .025" stainless steel wires with 20° of upper-incisor torque showed an average loss of:
 - a) 4° of torque
 - b) 7° of torque
 - c) 10° of torque
 - d) a negligible amount of torque
2. The authors found that the prescription of about 10° of upper-incisor torque using Align's Power Ridges results in a loss of:
 - a) 4° of torque
 - b) 7° of torque
 - c) 10° of torque
 - d) a negligible amount of torque
3. Distortion of an aligner's gingival edge can cause it to move away from the tooth surface and result in:
 - a) unwanted rotations

- b) unwanted intrusion
 - c) lingual or labial root torque
 - d) any of the above
4. Linear correlation coefficients comparing the virtual-setup and scanned-cast torque values indicated that the ClinCheck models are:
 - a) poor representations of actual conditions
 - b) fair representations of actual conditions
 - c) good representations of actual conditions
 - d) excellent representations of actual conditions

Article 2

Veereshi A.S.; Vijayalakshmi P.S.; Verma, V.; Jayade, V.P.; and Kumar, M.: *The Efficacy of Enamel Sandblasting in Bonding to Fluorosed Teeth* (pp. 361-364)

5. The fluorapatite crystals in fluorosed enamel:
 - a) are less resistant to acid dissolution compared to hydroxyapatite crystals found in normal enamel
 - b) are more resistant to acid dissolution compared to hydroxyapatite crystals found in normal enamel
 - c) display a type I acid-etching pattern, with the central core of the enamel prisms dissolved
 - d) display a type II acid-etching pattern, with the central core of the enamel prisms intact
6. The highest bond strengths to fluorosed enamel were found in teeth prepared by:
 - a) sandblasting only
 - b) sandblasting followed by acid etching
 - c) acid etching only
 - d) acid etching followed by sandblasting
7. At debonding, almost none of the adhesive remained on the teeth prepared by:
 - a) sandblasting only

- b) sandblasting followed by acid etching
 - c) acid etching only
 - d) acid etching followed by sandblasting
8. In a study of the effect of an adhesion booster on fluorosed enamel, bond strength:
- a) was significantly higher, and bond failure occurred mainly at the bracket-adhesive interface
 - b) was significantly lower, and bond failure occurred mainly at the bracket-adhesive interface
 - c) was significantly higher, and bond failure occurred mainly at the enamel-adhesive interface
 - d) was significantly lower, and bond failure occurred mainly at the enamel-adhesive interface

Article 3

Villegas, C.; Janakiraman, N.; Nanda, R.; and Uribe, F.: *Management of Unilateral Condylar Hyperplasia with a High Condylectomy, Skeletal Anchorage, and a CAD/CAM Alloplast* (pp. 365-374)

9. Bone scans with technetium 99m methylene bisphosphonate (^{99m}Tc) can help determine whether a patient's condylar hyplasia:
- a) would be best treated with high condylectomy or orthognathic surgery
 - b) is unilateral or bilateral
 - c) is progressive or inactive
 - d) both b and c
10. Common clinical features of unilateral condylar hyperplasia include all of the following except:
- a) midline discrepancy
 - b) an intercommissural cant
 - c) excessive lower facial height on the unaffected side
 - d) chin-point deviation
11. Active unilateral condylar hyperplasia is suggested by a ^{99m}Tc bone scan indicating a differential radioisotope uptake of:
- a) 50%:50% or higher
 - b) 55%:45% or higher
 - c) 60%:40% or higher
 - d) 63%:37% or higher
12. High condylectomy for treatment of unilateral

- condylar hyperplasia during hyperactive growth:
- a) may result in downward rather than antero-posterior mandibular growth
 - b) can prevent a severe deformity that may develop if corrective surgery is deferred
 - c) may avoid the need for additional surgery to correct a Class III relapse
 - d) all of the above

Article 4

Winsauer, H.; Vlachojanis, J.; Winsauer, C.; Ludwig, B.; and Walter, A.: *A Bone-Borne Appliance for Rapid Maxillary Expansion* (pp. 375-381)

13. The choice of a standard Hyrax screw with lateral arms vs. a special Hyrax screw with anterior arms is most dependent on:
- a) the amount of expansion desired
 - b) the type of palatal miniscrew used
 - c) the space available between the miniscrews
 - d) the age of the patient
14. Stability and strength of the MICRO expander are enhanced by:
- a) connecting the miniscrews with light-cured resin in young adolescent patients
 - b) injecting self-curing composite into the miniscrew collars
 - c) connecting the miniscrews with a MICRO transpalatal arch
 - d) all of the above
15. In one study, more than half of the skeletally mature patients undergoing tooth-borne maxillary expansion reported:
- a) ulcerations
 - b) pain and swelling
 - c) failure to expand
 - d) all of the above
16. The authors have successfully used the MICRO-6 Hyrax expander in adults as old as:
- a) 20
 - b) 25
 - c) 30
 - d) 40