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Learning Objectives

After completion of this exercise, the participant will be able to:
1. Describe variations of a palatal expander anchored with miniscrews.
2. Evaluate a molar-distalization protocol that requires no use of skeletal anchorage or interarch appliances.
3. Fabricate a canine-eruption system using a light superelastic wire segment.
4. Discuss the effects of miniscrew-anchored pontics on bone biology in growing patients.

Article 1

Kim, K.B. and Helmkamp, M.E.: *Miniscrew Implant-Supported Rapid Maxillary Expansion* (pp. 608-612)

1. A pilot study found that a surgically assisted, bone-anchored rapid palatal expander (RPE):
   a) was associated with a higher incidence of root resorption
   b) produced 6-9° more alveolar tipping than dental tipping
   c) produced 6-9° more dental tipping than alveolar tipping
   d) produced 50% dental expansion and 50% skeletal expansion
2. To prevent palatal crown tipping, the authors' miniscrew-supported RPE:
   a) incorporates acrylic crowns on the upper premolars and first molars
   b) includes bonded buccal wire segments for anchorage
   c) includes arms or acrylic extending to the lingual of the premolars and first molars
   d) is activated only one-half turn per day
3. The acrylic-plate variation of the authors' appliance is particular useful:
   a) in cases requiring anchorage with only one palatal miniscrew
   b) in patients with very narrow palates or high palatal vaults
   c) when some palatal crown tipping is desirable
   d) both b and c
4. Advantages of the miniscrew implant-supported RPE include:
   a) increased skeletal expansion and reduced dental tipping
   b) usefulness in patients with missing molars
   c) ability to be used with a fully bonded upper arch during leveling and alignment
   d) all of the above

Article 2

Catalfamo, L.; Gasperoni, E.; Celli, D.; and Deli, R.: *Class II Treatment with the Smart Distalization Technique* (pp. 613-624)

5. The authors' distalization technique uses all of the following except:
   a) low-friction ligatures
   b) Class II elastics
   c) a Pendulum appliance
   d) superelastic nickel titanium loops
6. According to Graber, distalization of the posterior dentition is most effective in a patient:
   a) who has completed growth
   b) with a significant overjet
   c) with a significant overbite

d) in the late mixed dentition

7. Placing omega loops flush against the upper first-molar tubes after distalization:
   a) maintains molar positions without headgear
   b) avoids the necessity for Class II elastic wear
   c) lengthens treatment time by several months
   d) reinforces anchorage of the upper anterior segment

8. In Case 1, a successful Class II correction was achieved due to:
   a) growth of the mandible
   b) growth of the maxilla
   c) mesial movement of the maxillary molars after distalization
   d) both a and c

Article 3

Gracco, A.; Maltoni, I.; Maltoni, M.; and Zoli, L.: *Eruption of a Labially Impacted Canine Using a Closed-Flap Technique and Orthodontic Wire Traction* (pp. 625-630)

9. Apical repositioning of a full-thickness flap after surgical exposure of an impacted canine high in the alveolus:
   a) negatively affects the clinical outcome
   b) positively affects the clinical outcome
   c) negatively affects the esthetic outcome
   d) positively affects the esthetic outcome

10. Drawbacks to using a ligature wire or elastic chain for canine traction include all of the following except:
   a) poor tissue healing
   b) need for frequent reactivation
   c) potential for wire or chain fracture
   d) possible displacement of adjacent teeth

11. In this patient, direct orthodontic traction using a light, round wire segment:
   a) avoided the need for repositioning of the bonded minitube
   b) prevented closure of the canine space during traction
   c) pulled the impacted canine crown in a lingual direction
   d) pulled the impacted canine crown in a buccal direction

12. After surgical exposure of a labially impacted canine in a favorable vertical position, orthodontic traction:
   a) should not be applied in a young patient
   b) should not be applied in a patient of any age
   c) should be immediately applied in a young patient
   d) should be immediately applied in a patient of any age

Article 4

Ciarlantini, R. and Melsen, B.: *Miniscrew-Retained Pontics in Growing Patients: A Biological Approach* (pp. 638-640)

13. The authors recommend temporary replacement of a missing anterior tooth in a growing patient using a pontic:
   a) anchored with a temporary implant in the palatal suture
   b) anchored with a temporary implant on the alveolar ridge
   c) anchored with a temporary implant in the palatal slope
   d) incorporated in a removable plate

14. Research by Thilander and colleagues shows that a temporary implant inserted in the alveolar ridge before the cessation of growth:
   a) negatively affects the microbiological spectrum and palatal mucosa
   b) impedes vertical bone development
   c) enhances vertical bone development
   d) has no effect on vertical bone development

15. Within the first month after insertion, a temporary orthodontic implant develops:
   a) 10-30% bone-to-implant contact
   b) 25-50% bone-to-implant contact
   c) 40-60% bone-to-implant contact
   d) 60-80% bone-to-implant contact

16. Biting forces may have little effect on the pontic system because:
   a) the miniscrew's presence enhances the density of surrounding bone
   b) the slight elasticity of the sectional wire prevents overloading
   c) mastication generates only a minor tipping moment
   d) all of the above