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Learning Objectives

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

1. Compare the effectiveness of various at-home whitening protocols during clear aligner treatment.
2. Describe the effects on orthodontic bracket prescriptions of flipping 180° or switching sides of the arch.
3. Discuss the advantages of maxillomandibular advancement surgery in adult patients with obstructive sleep apnea.
4. Contrast treatment options for Class II patients with severely impacted lower second molars.

Article 1

Oliverio, T.; Cremonini, F.; Lombardo, L.; and Siciliani, G.: *Tooth Whitening in Association with Clear Aligner Treatmen*t (pp. 508-517)

1. The F22 clear aligner is made from a:
   a) single-layer rigid polyurethane
   b) single-layer flexible polyurethane
   c) thermoplastic polyurethane
   d) thermoplastic elastomer
2. In this study, tooth shades were analyzed before and after whitening according to the:
   a) VITA classical shade guide
   b) VITA 3D master shade guide
   c) universal tooth shade guide
   d) Opalescence tooth shade guide
3. The greatest percentage improvement in whiteness was achieved with the application of:
   a) 3% hydrogen peroxide for seven days
   b) 10% carbamide peroxide for seven days
   c) 16% carbamide peroxide for seven days
   d) 16% carbamide peroxide for 14 days
4. After whitening and 14 days of wear, the F22 aligners maintained a transparency level of:
   a) 40%
   b) 60%
   c) 80%
   d) 100%

Article 2

Kravitz, N.D. and Miller, S.: *The Rules of Bracket Flipping and Switching* (pp. 518-520)

5. A bracket is commonly flipped 180° to:
   a) add labial root torque to a blocked-out lateral incisor
   b) add palatal root torque to a maxillary canine in a substitution case
   c) add palatal root torque while maintaining distal root tip of a lower second premolar
   d) either a or b
6. Switching the right and left brackets within the same arch:
   a) reverses the tip, but does not alter the torque
   b) reverses the torque, but does not alter the tip
   c) does not alter the torque or the tip
   d) cancels the effect of flipping
7. The "flip, don't switch" rule applies only:
   a) within the same quadrant
   b) within the same arch
   c) in the maxillary arch
   d) in the mandibular arch
8. Switching brackets between arches:
   a) reverses the tip, but does not alter the torque

b) reverses the torque, but does not alter the tip
c) does not alter the torque or the tip
d) cancels the effect of flipping

Article 3

Uesugi, S.; Imamura, T.; Yonemitsu, I.; and Ono, T.: *Surgical-Orthodontic Treatment of Adults with Mandibular Retrognathism and Obstructive Sleep Apnea* (pp. 521-534)

9. Common methods of treating obstructive sleep apnea (OSA) include all of the following except:
a) weight loss
b) behavior modification
c) rapid maxillary expansion
d) continuous positive airway pressure

10. Maxillomandibular advancement surgery can increase the volume of the:
a) nasopharynx
b) oropharynx
c) hypopharynx
d) all of the above

11. One year after surgery in the patient shown here, cone-beam computed tomography confirmed:
a) an increase in all upper airway measurements
b) a decrease in all upper airway measurements
c) an increase in only sagittal upper airway measurements
d) a decrease in only coronal upper airway measurements

12. A slight relapse in upper airway dimensions three years after surgery was attributed to:
a) bony relapse in the sagittal dimension
b) weight gain by the patient
c) inadequate adaptation of the soft tissues surrounding the upper airway
d) all of the above

Article 4

Mezomo, M.B.; Guerino, P.; Matje, P.R.B.; and de Lima, E.M.S.: *Uprighting Severely Impacted Lower Second Molars Prior to Class II Correction with Upper Second-Molar Extractions* (pp. 539-549)

13. The etiology of lower second-molar impaction can involve any of the following except:
a) lack of space in the mandibular arch
b) missing third molars
c) loss of first molars
d) alteration of the dental follicle

14. The decision to extract an impacted lower second molar or relocate it orthodontically must account for:
a) the severity of the impaction
b) the age of the patient
c) the position of the adjacent third molar
d) both a and c

15. In this case, anchorage for uprighting the impacted lower second molars was supplied by:
a) temporary anchorage devices
b) a modified Nance lingual arch
c) headgear
d) cantilever wires

16. The upper second molars were chosen for extraction instead of premolars because:
a) overretraction of the upper anterior teeth could have worsened the facial profile
b) the upper second molars would have impeded uprighting of the impacted lower second molars
c) removal of the upper premolars would have required intrusion of the second molars and extraction of the third molars to create space
d) all of the above