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Learning Objectives

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

1. Describe a technique that uses a single midpalatal miniscrew to intrude and retract the entire maxillary dentition.
2. Compare the properties of three-dimensionally printed polyamide aligners to those of other aligner materials.
3. Fabricate an upper splint to simulate "surgery first" mandibular advancement.
4. Discuss the esthetic perception of incisal-embrasure heights by laypeople and orthodontists.

Article 1

Lin, S.C.; Thavarungkul, R.; Chen, L.Y.P.; and Wang, S.H.: *The High-Pull Palatal Gear (HPPG) Technique for Treating Hyperdivergent Class II Malocclusions* (pp. 399-408)

1. Double-arch intrusion with skeletal anchorage has become an alternative to surgery in hyperdivergent Class II cases because it can produce:
   a) transverse maxillary expansion
   b) maxillary molar distalization
   c) counterclockwise rotation of the mandible
   d) clockwise rotation of the mandible
2. The palatal miniscrew used for anchorage in the high-pull palatal gear (HPPG) technique is placed:
   a) in the anterior portion of the T-Zone
   b) in the posterior portion of the T-Zone
   c) just behind the palatal rugae
   d) both a and c
3. For lower-arch intrusion, the authors used miniscrews placed:
   a) between the lower first premolars and first molars, at the level of the mucogingival junction
   b) between the roots of the lower first premolars and first molars
   c) between the lower first molars and second molars, at the level of the mucogingival junction
   d) between the roots of the lower first molars and second molars
4. The major cause of miniscrew failure is:
   a) improper insertion
   b) contact with the dental roots
   c) improper design of the force system
   d) placement in the movable mucosa

Article 2

Lombardo, L.; Pepe, F.; Palone, M.; and Cremonini, F.: *Night-Time 3D-Printed Aligners and Intermaxillary Elastics for Treatment of a Class II Subdivision Malocclusion in an Adolescent Patient* (pp. 418-426)

5. Plastics that are currently used for 3D printing of orthodontic appliances include all of the following except:
   a) acrylonitrile-butadiene-styrene
   b) polylactic acid
   c) zirconium oxide
   d) polycarbonate
6. Polyamide aligners can apply higher forces and maintain them for longer periods because of their:
   a) opaque material
   b) lower stress relaxation
   c) direction of force application
   d) all of the above

7. In nonextraction treatment of asymmetrical Class II malocclusions, clear aligners have an advantage over fixed appliances in controlling lower-incisor proclination and lower-molar extrusion because of the:
   a) thickness of the aligner material
   b) ability to avoid extractions
   c) direction of force application
   d) ability to use customized attachments
8. The Noxi aligners shown here do not usually require grip points because:
   a) elastics can be attached directly to the aligners
   b) esthetic buttons can be used instead
   c) they are worn only 10-12 hours a day
   d) they are 3D-printed with different thicknesses in different areas

Article 3

Khattab, T.Z.; Lutfi, F.; Alzarif, W.; Almallah, D.; and Alawad, T.: *A Simple Prediction Method for "Surgery First" Treatment of Skeletal Class II Malocclusions* (pp. 428-438)

9. The "surgery first" treatment approach was first proposed by:
   a) Bell and Creekmore in 1973
   b) Epker and Fish in 1977
   c) Nagasaka and colleagues in 2009
   d) Kolokitha and Topouzelis in 2011
10. The authors' trial splint is made from:
   a) polyurethane
   b) alginate
   c) acrylic
   d) methyl methacrylate
11. The trial splint is used first to predict the surgical results and later as a:
   a) means of intermaxillary fixation
   b) surgical wafer
   c) means of stabilization during the postsurgical orthodontic phase
   d) retainer
12. Two days before the surgery is performed, the orthodontist places:
   a) the trial splint
   b) the wires for intermaxillary fixation
   c) upper and lower brackets
   d) upper and lower rectangular stainless steel archwires

Article 4

Crell, B.; Rinchuse, D.; and Zullo, T.: *Esthetic Perception of Maxillary Incisal-Embrasure Spaces by Laypeople and Orthodontists* (pp. 442-446)

13. Factors affecting the shapes and contours of the incisors include their:
   a) interproximal contacts
   b) connectors
   c) gingival and incisal embrasures
   d) all of the above
14. According to Sarver, the ideal connector length between the central incisors should be:
   a) 30% of their height
   b) 40% of their height
   c) 50% of their height
   d) 60% of their height
15. In this study, the orthodontists assigned higher esthetic scores than the laypeople to the:
   a) 0mm and 1mm incisal embrasures
   b) 1mm and 2mm incisal embrasures
   c) 3mm incisal embrasures
   d) none of the above
16. The ideal incisal-embrasure height was found to be:
   a) 0-2mm
   b) 1-3mm
   c) 2-4mm
   d) greater than 4mm