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Learning Objectives

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

1. Utilize an overlay wire to achieve dental expansion or constriction in either arch.
2. Discuss the effectiveness of Invisalign's mandibular-advancement (MA) feature in Class II treatment.
3. Prescribe MA aligners for treatment of skeletal Class II malocclusion during the pubertal growth-peak stage.
4. Perform block intrusion of upper incisors using indirect anchorage from buccal mini-implants.

Article 1

Choi, B.; Park, J.H.; Halim, I.A.; and Choi, H.: *An Overlay Arch for Maxillary and Mandibular Transverse Discrepancies* (pp. 447-457)

1. This overlay arch is:
 - a) inserted into the molar headgear tubes
 - b) attached to the main archwire using its terminal hooks
 - c) anchored by buccal miniscrews
 - d) either a or b
2. Options for dental arch expansion include all of the following except:
 - a) an overlay arch
 - b) miniscrew-assisted rapid palatal expansion (MARPE)
 - c) a transpalatal or lingual arch
 - d) a Quad Helix
3. An overlay wire achieves expansion or constriction of the arch primarily by means of:
 - a) skeletal changes

- b) mesial movement of the posterior teeth
 - c) dental tipping
 - d) myofunctional improvement
4. The overlay wire should not be placed until:
 - a) after initial leveling and alignment
 - b) after orthopedic expansion
 - c) centric stops have been maximized
 - d) the patient has stopped growing

Article 2

Glaser, B.J.; Tai, S.K.; Blevins, R.; and Daher, S.: *Prospective Multicenter Investigation of Invisalign Treatment with the Mandibular-Advancement Feature: An Interim Report* (pp. 458-463)

5. The Invisalign MA feature is similar to the Twin Block appliance in that it uses:
 - a) one-step mandibular positioning
 - b) incremental mandibular positioning
 - c) Precision Wings
 - d) cribs for seating the device
6. In this study, Class II elastics were used:
 - a) in the pre-MA phase
 - b) in the MA phase
 - c) in the post-MA phase
 - d) both b and c
7. The study found statistically significant changes during treatment in all of the following except:
 - a) FMA
 - b) SNB
 - c) Wits appraisal
 - d) CoGn
8. Most of the patients indicated that they experienced discomfort from the aligners:
 - a) between "always" and "often"

- b) between “often” and “sometimes”
- c) between “sometimes” and “never”
- d) “never”

Article 3

Pavoni, C.; Lione, R.; Lugli, L.; Loberto, S.; and Cozza, P.: *Treatment Timing Considerations for Mandibular Advancement with Clear Aligners in Skeletal Class II Malocclusions* (pp. 464-471)

9. The main advantage of the MA feature over conventional functional appliances is the:
- a) removable nature of the aligners
 - b) ability to perform mandibular advancement simultaneously with tooth movement
 - c) ability to be timed during the pubertal growth peak
 - d) potential long-term enhancement of mandibular growth
10. Aligner attachments cannot be placed on the buccal side of the premolars or molars when:
- a) the patient is in the mixed dentition
 - b) there is a mandibular skeletal deficiency
 - c) Precision Wings are used
 - d) all of the above
11. In the case shown here, the authors attributed a reduction in ANB primarily to:
- a) forward displacement of the mandible
 - b) clockwise rotation of the mandible
 - c) incisor proclination
 - d) an increase in ramal height
12. During the pre-MA phase, the authors corrected issues that could prevent mandibular advancement, including:
- a) a transverse discrepancy
 - b) a steep mandibular curve of Spee
 - c) lower-incisor proclination
 - d) all of the above

Article 4

Boangar, E.D.: *Upper-Incisor Intrusion with Axial Control Using a Sectional Appliance and Indirect Mini-Implant Anchorage* (pp. 473-481)

13. Upper-incisor intrusion can be accomplished by using:
- a) J-hook headgear
 - b) a Ricketts utility arch
 - c) skeletal anchorage
 - d) any of the above
14. In an indirect system for upper-incisor intrusion, the point of force application should be:
- a) anterior to the center of resistance of the anterior teeth
 - b) distal to the center of resistance of the anterior teeth
 - c) anterior to the center of resistance of the maxillary arch
 - b) distal to the center of resistance of the maxillary arch
15. In this case, mini-implants were placed between the upper canines and first premolars to:
- a) take advantage of the attached gingival height and bone thickness
 - b) avoid long spans of wire that could irritate the patient’s cheeks
 - c) allow the use of bracket-head miniscrews
 - d) both a and b
16. The intrusive force was reactivated by:
- a) affixing the two sectional wires to the mini-implant heads and canine surfaces
 - b) placing progressive step-up bends in the stainless steel archwire
 - c) adding inset bends at the incisors
 - d) cinching back the sectional wires