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Learning Objectives

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

1. Describe the use of low-level light therapy to accelerate sequential distalization with the Invisalign system.
2. Contrast the two Invisalign staging protocols for Class II treatment.
3. Discuss the application of clear aligners in complex interceptive treatment.
4. Compare patient compliance with clear aligner therapy by sex and age group.

Article 1

Ojima, K.; Dan, C.; Watanabe, H.; and Kumagai, Y.: *Upper Molar Distalization with Invisalign Treatment Accelerated by Photobiomodulation* (pp. 675-683)

1. Photobiomodulation (PBM) uses:
 - a) near-infrared light
 - b) quasar light
 - c) red light
 - d) ultraviolet light
2. PBM facilitates tissue repair and bone remodeling by:
 - a) reducing inflammation
 - b) raising metabolic activity in damaged areas
 - c) increasing osteoclast count on targeted teeth
 - d) increasing cellular proliferation on the tension side
3. In the case shown here, the OrthoPulse was modified with:
 - a) an acceleration device
 - b) an additional light-emitting diode source

- c) a distal extension allowing segmental treatment of the molars and anterior teeth
 - d) attachments on the lower first molars
4. Advantages of accelerated aligner changes in sequential distalization include:
 - a) ability to review treatment progress in a compressed time period
 - b) improved aligner fit
 - c) improved aligner tracking due to more frequent changes
 - d) all of the above

Article 2

Vlaskalic, V. and Samoto, H.: *Class II Correction with Weekly Changes of Computer-Generated Aligners: Distalize or Jump?* (pp. 684-700)

5. Invisalign's "distalization" staging protocol is also known as:
 - a) elastic simulation
 - b) jumping
 - c) V pattern
 - d) aligner shortening
6. Treatment time for the standard distalization protocol can be reduced by:
 - a) requesting simultaneous anterior alignment
 - b) distalizing more than one posterior tooth at a time
 - c) programming weekly aligner changes
 - d) any of the above
7. In the elastic simulation protocol, the occlusal correction results from any of the following except:
 - a) tooth-by-tooth distalization
 - b) a simulated single jump
 - c) Class II elastic wear

- d) orthognathic surgery
- 8. In Class II treatment, aligner hooks are conventionally placed on the:
 - a) upper first premolars and lower second premolars
 - b) upper canines and lower first molars
 - c) upper first premolars and lower first molars
 - d) upper canines and lower second molars

Article 3

Favero, R.; Volpato, A.; and Favero, L.: *Managing Early Orthodontic Treatment with Clear Aligners* (pp. 701-709)

- 9. Power Grips are fabricated from:
 - a) acrylic buttons
 - b) indentations in the aligner trays
 - c) flowable composite
 - d) self-curing adhesive
- 10. For crossbite correction during interceptive treatment, an aligner can be combined with:
 - a) a tongue crib
 - b) a built-in expansion screw
 - c) a rapid palatal expander
 - d) an anterior bite plane
- 11. Serial extractions are especially indicated for patients in the early mixed dentition with:
 - a) severe crowding
 - b) vertical growth direction
 - c) arch-length discrepancy
 - d) both a and b
- 12. Clear aligners are well suited to interceptive treatment because they provide:
 - a) extremely light eruption guidance

- b) arch development
- c) habit interruption
- d) all of the above

Article 4

Crouse, J.M.: *Patient Compliance with Removable Clear Aligner Therapy* (pp. 710-713)

13. The main reasons given by patients in the author's practice for choosing fixed appliances over clear aligners include:

- a) anticipated inability to comply with clear aligner wear
- b) expectation of better results from use of fixed appliances
- c) desire for braces with colors
- d) both a and c

14. Poor cooperation with aligner wear was defined to include any of the following except:

- a) lost aligners
- b) poor aligner fit
- c) unsatisfactory treatment results
- d) need for midcourse refinements

15. In a comparison of male and female patients:

- a) males were significantly better cooperators
- b) females were significantly better cooperators
- c) females were slightly better cooperators
- d) there was no significant difference

16. The age group with the highest rate of poor cooperation was:

- a) 12-13
- b) 14-15
- c) 20-29
- d) 50-59