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Learning Objectives

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

1. Follow a habit-breaking protocol to correct anterior tongue positioning in open-bite cases.
2. Outline alternatives for orthodontic recovery of impacted maxillary incisors in early treatment.
3. Compare two Invisalign materials in terms of the efficacy and predictability of achieving maxillary expansion.
4. Discuss the multidisciplinary treatment of a patient with a fused upper central incisor.

Article 1

Voudouris, J.C. and Voudouris, J.D.: *Tongue Tamers for Rapid Open-Bite Closure* (pp. 326-333)

1. Normal swallowing occurs:
 - a) 200-300 times a day
 - b) 400-600 times a day
 - c) 600-1,000 times a day
 - d) 1,200-1,500 times a day
2. The Aligner Tongue Tamers consist of:
 - a) protrusions in the aligner plastic
 - b) perforations in the aligner plastic
 - c) bonded lingual metal buttons
 - d) both a and b
3. In this protocol, labial horizontal aligner attachments should be programmed:
 - a) from upper and lower canine to canine
 - b) from upper canine to canine only
 - c) from upper and lower first molar to first molar
 - d) on the upper premolars and first molars
4. To promote protrusion when Tongue Tamers

are used, the authors recommend adding:

- a) occipital headgear
- b) box elastics
- c) temporary anchorage devices
- d) a lingual holding arch

Article 2

Greco, M.; Pacifico, D.; and Rombolà, A.: *A Three-Stage Approach for Managing Impacted Maxillary Incisors in the Mixed Dentition* (pp. 334-342)

5. Incisor impactions can be caused by any of the following factors except:
 - a) supernumerary teeth
 - b) congenitally missing teeth
 - c) dentigerous cysts
 - d) traumatic injuries
6. The authors recommend using rapid maxillary expanders in:
 - a) patients with anterior crossbite only
 - b) patients with maxillary constriction only
 - c) patients with both anterior crossbite and maxillary constriction
 - d) all patients, regardless of crossbite or constriction
7. If the impacted incisor has a dilacerated root:
 - a) no maxillary expansion should be performed
 - b) a single extrusive vector should be applied
 - c) a horizontal force vector should be applied before a vertical vector
 - d) a metal chain should not be bonded to the exposed incisor crown
8. The incisor position is refined using:
 - a) a fixed sectional appliance on the six upper anterior teeth

- b) a full upper archwire
- c) composite build-ups on the six upper anterior teeth
- d) a stage of clear aligners

Article 3

Vidal Bernárdez, M.L.; Vilches Arenas, A.; Sonnemberg, B.; Solano Reina, E.; and Solano Mendoza, B.: *EX30 vs. SmartTrack Materials in Maxillary Expansion with the Invisalign System* (pp. 343-350)

9. Invisalign SmartTrack material is made from:
- a) an unspecified polymer
 - b) polyurethane-methylene diphenyldiisocyanate 1,6-hexanediol
 - c) a multilayer aromatic thermoplastic polyurethane/thermoplastic copolyester
 - d) polyethylene terephthalate glycol
10. In terms of efficacy, the most significant changes for both the EX30 and SmartTrack materials were found:
- a) between the first-premolar cusps
 - b) at the gingival level of the second premolars
 - c) at both the gingival and cusp levels of the first molars
 - d) all of the above
11. Expansion produced with the SmartTrack material was more predictable than that produced with EX30:
- a) at the cusp level
 - b) at the gingival level
 - c) at both the cusp and gingival levels
 - d) at neither the cusp nor the gingival level
12. The greater effectiveness of EX30 in achieving expansion at the gingival level was attributed to the:
- a) small sample size

- b) rigidity of EX30
- c) chemical stability of EX30
- d) use of a G8 protocol

Article 4

Karkazi, F.; Logothetis, G.; Shahab, N.; Rabie, A.B.M.; and Acar, A.: *Translation of a Tooth Across the Suture to Replace a Fused Upper Central Incisor* (pp. 353-363)

13. Dental fusion has been associated with:
- a) physical pressure during development
 - b) cleft lip
 - c) the use of thalidomide during pregnancy
 - d) all of the above
14. The incidence of dental fusion in the maxillary anterior segment of the permanent dentition is reportedly:
- a) .1%
 - b) .5-1%
 - c) 1.37%
 - d) 1.5-2%
15. In the case shown here, the left lateral incisor was moved into the position of the left central incisor and replaced by:
- a) the fused right central incisor
 - b) the left canine
 - c) a supernumerary lateral incisor
 - d) a dental implant
16. Labial root torque was applied to the new left lateral incisor by:
- a) bonding the bracket more gingivally
 - b) adding torque with an .016" x .022" TMA archwire
 - c) building up the tooth to the proper mesio-distal dimension
 - d) all of the above