

CONTINUING EDUCATION

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Learning Objectives

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

1. Review common side effects of boneborne maxillary expanders.
2. Discuss how to avoid lower-incisor proclination in cases with severe anterior crowding.
3. Describe “roller-coaster effects” and how to counteract them in extraction cases.
4. Consider the potentially adverse ramifications of segmented Le Fort I osteotomies when used for maxillary expansion.

Article 1

Ludwig, B.; Biondi, G.; Iodice, G.; Aghazada, H.; and Perrotta, S.: *Boneborne Maxillary Expansion: A Clinical Report of Potential Challenges* (pp. 22-28)

1. Digital planning and three-dimensional printing of boneborne expanders have increased the popularity of:
 - a) the appliance-first method
 - b) the bone-first method
 - c) the one-visit protocol
 - d) both b and c
2. The most common problem related to TADs is:
 - a) loss of stability
 - b) fracture of the expansion screw
 - c) periodontal issues at the anchorage teeth
 - d) asymmetrical expansion
3. The worst consequence of an appliance-related failure would be:
 - a) loss of stability

- b) swallowing or aspiration of the expander
 - c) loss or breakage of a fixation screw
 - d) asymmetrical expansion
4. Host-related factors include all of the following except:
 - a) the patient’s bone anatomy
 - b) improper appliance fitting
 - c) the patient’s individual biology
 - d) the degree of sutural fusion

Article 2

Boggio, A. and Cozzani, M.: *Indiscriminate Alignment in Cases with Severe Mandibular Crowding: How to Prevent and Manage an Everyday Orthodontic Problem* (pp. 29-36)

5. Causes of excessive lower-incisor proclination and flaring include any of the following except:
 - a) dentoskeletal discrepancies
 - b) congenital defects
 - c) inappropriate use of Class II elastics
 - d) lack of torque control
6. Gingival recessions are more common:
 - a) on mandibular teeth than on maxillary teeth
 - b) on facial surfaces than on lingual surfaces
 - c) in older patients than in younger patients
 - d) all of the above
7. In a patient with severe crowding and/or proclination of the lower incisors, special attention should be paid to the:
 - a) bonding strategy
 - b) extraction pattern
 - c) tips of the mandibular canines
 - d) both a and c

8. Excessive initial tipping of lower canines will promote labial flaring of lower incisors when:
- an archwire is engaged in the anterior teeth
 - a fixed functional appliance is used
 - Class II elastics are used
 - a gingival recession is present

Article 3

Venugopal, A.; Hatami, A.; and Ghosh, A.: *Optimizing Treatment Outcomes in Transfer Patients with Severe Roller-Coaster Effects* (pp. 37-43)

9. Elements of “roller-coaster effects” include:
- loss of anterior torque and tip
 - deepening of the bite
 - posterior anchorage loss
 - any of the above
10. In the case shown here, the maxillary-incisor extrusion was counteracted with the addition of:
- a single temporary anchorage device (TAD) in the upper midline
 - two upper-anterior TADs
 - an intrusion arch
 - open-coil springs
11. TADs should be avoided in the mandibular anterior region because of:
- minimal unattached gingiva
 - proximity to the lower lip
 - the need for extensive root movement
 - both a and b
12. Studies have shown that the thickness of labial alveolar bone increases significantly:
- when roller-coaster effects occur during orthodontic treatment
 - when light, continuous forces are applied
 - during incisor intrusion and retraction
 - when anterior TADs are used

Article 4

Kravitz, N.D. and Mahn, D.H.: *Loss of Central-Incisor Papilla Following Segmented Le Fort I Osteotomy and Periodontal Osseous Surgery* (pp. 48-56)

13. The two most common surgical treatments for transverse maxillary deficiency are segmented Le Fort I osteotomy and:
- Le Fort II osteotomy
 - miniscrew-assisted rapid palatal expansion (MARPE)
 - surgically assisted rapid palatal expansion (SARPE)
 - slow palatal expansion
14. A traditional two-stage surgical approach is recommended if:
- less than 5mm of expansion is needed
 - more than 5-7mm of expansion is needed
 - the patient has little or no growth remaining
 - a skeletal malocclusion is involved
15. The most frequent dental complication seen in patients undergoing segmented Le Fort I osteotomies is:
- periodontal bone resorption at the interdental osteotomy site
 - relapse of the surgical expansion
 - development of crossbites
 - uncontrolled flaring of the lower-anterior segment
16. The most popular method of rebuilding the papilla is:
- periodontal osseous surgery
 - periodontal bone grafting
 - connective-tissue grafting
 - open gingival surgery