Learning Objectives

After completion of this exercise, the participant will be able to:
1. Outline various applications of one-couple force systems using skeletal anchorage.
2. Discuss the issues involved in clear-aligner treatment of extraction and interdisciplinary patients.
4. Describe the orthodontic management of multiple impacted teeth with eruption anchored by a modified miniscrew.

Article 1

Chandhoke, T.K.; Nanda, R.; and Uribe, F.A.: *Clinical Applications of Predictable Force Systems* (pp. 229-239)
1. With direct skeletal anchorage, any side effects of a one-couple force system are exerted on the:
   a) miniscrew
   b) teeth adjacent to the tooth being moved
   c) anchor unit of the dentition
   d) opposing arch
2. With indirect skeletal anchorage, any side effects of a one-couple force system are minimized by:
   a) the teeth adjacent to the tooth being moved
   b) the anchor unit of the dentition
   c) stabilization with a miniscrew
   d) a transpalatal arch
3. Placement of a miniscrew perpendicular to the long axis of the dentition can result in:
   a) counterclockwise torquing moments on the miniscrew head
   b) clockwise torquing moments on the miniscrew head
   c) screw failure
   d) any of the above
4. If there is not enough room for a miniscrew in the alveolar ridge, in line with the dentition, the intrabacket couple can be controlled by:
   a) inserting the miniscrew into the buccal cortical plate
   b) placing two miniscrews to reduce the risk of failure
   c) using a more gingival bracket position to increase the vertical activation
   d) any of the above

Article 2

Bowman, S.J.; Celenza, F.; Sparaga, J.; Papadopoulos, M.A.; Ojima, K.; and Lin, J.C.Y.: *Creative Adjuncts for Clear Aligners* (pp. 249-262)
5. In extraction treatment with clear aligners, miniscrews can provide:
   a) direct anchorage for anterior retraction
   b) indirect anchorage for anterior retraction
   c) temporary “posts” for elastic attachment
   d) both b and c
6. When anterior lingual root torque is applied with clear aligners, the lack of occlusion of the upper molars’ interproximal marginal ridges must be counteracted with a balancing:
   a) distal crown rotation (tip) of the molars
   b) lingual crown torque of the upper incisors
   c) tied-back omega stop in the archwire
   d) occlusal force coupled through the aligners
7. In clear-aligner treatment, a combination of inadequate buccal root torque for the upper posterior teeth and excessive lingual crown tip for the lower posterior teeth appears to:
   a) “roll in” the upper molars
   b) “roll in” the lower molars
   c) “round out” the upper archform
   d) “round out” the lower archform
8. The new ClinCheck Pro Enhancements software permits the clinician to:
   a) adjust individual root torque
   b) alter posterior buccolingual inclinations
   c) improve buccolingual cusp heights
   d) all of the above

Article 3
Abela, S.; Tewson, D.; Prince, S.; Sidebottom, A.; and Bister, D.: Total TMJ Reconstruction in Cases of Advanced Idiopathic Condylisis (pp. 263-269)
9. Causes of idiopathic condylysis (IC) may include all of the following except:
   a) excessive mechanical loading of the TMJs
   b) articular-disc repositioning
   c) juvenile idiopathic arthritis
   d) hormonal imbalances
10. A patient with IC usually presents with:
    a) a severe Class II skeletal base
    b) an excessive overbite
    c) a lengthening of the mandibular ramus-condylar unit
    d) all of the above
11. Orthognathic surgery is contraindicated in an IC patient with:
    a) an intact disc
    b) intact bilaminar tissue
    c) active condylar pathology
    d) a functional condyle-to-mandibular-fossa structure
12. The primary advantage of total TMJ reconstruction is:
    a) its lower cost compared to orthognathic surgery
    b) the conformation of the prosthesis to the patient’s growth pattern
    c) the immediate restoration of function and esthetics following a single surgery
    d) the absence of visible scar tissue

Article 4
Shetty, B.K.; Somaiah, S.; Muddaiah, S.; Parveen, S.; and Sirajuddin: Guided Eruption of Multiple Impacted Teeth Using a Modified Miniplate (pp. 273-280)
13. Causes of impaction may include all of the following except:
    a) formation of scar tissue due to trauma
    b) hormonal imbalances
    c) inadequate arch space
    d) genetic predisposition
14. Multiple impaction may be associated with:
    a) cleidocranial dysplasia
    b) Gardner syndrome
    c) Down syndrome
    d) any of the above
15. Early removal of obstacles in the physiologic eruptive path of an impacted tooth may result in:
    a) spontaneous eruption
    b) impaction of adjacent teeth
    c) less need for an open-eruption technique
    d) preservation of gingival tissue around the impacted tooth
16. Compared to an orthodontic miniscrew, a miniplate allows:
    a) the impacted tooth to erupt spontaneously
    b) the forces to be dissipated throughout the dental arch
    c) forces to be applied with different vectors and levels
    d) unwanted movement of the adjacent teeth to be avoided