After completing this course, the participant will have:

1. An awareness of the improvements in the Peer Assessment Rating scores for nonextraction, first premolar extraction, and mandibular incisor extraction treatment protocols.
2. A familiarity with the characteristics of *Streptococcus mutans* biofilm formation on excess adhesive flash that occurs with bracket placement.
4. An understanding of racial and sex differences when using the cervical vertebrae maturation stages as indicators of growth potential.

**Article 1: Improvement in Peer Assessment Rating scores after nonextraction, premolar extraction, and mandibular incisor extraction treatments in patients with Class I malocclusion, by Adeel Tahir Kamal et al**

1. The objective of this study was to evaluate the improvements in the Peer Assessment Rating (PAR) after treatment of patients with Class I malocclusions by either nonextraction, all first premolar extractions, or mandibular incisor extraction.
   - True
   - False
2. The pretreatment and posttreatment dental casts for each subject were evaluated for changes in the PAR index by 3 trained and calibrated investigators.
   - True
   - False
3. The authors reported that the mandibular incisor extraction group had higher pretreatment PAR scores than did the first premolar extraction group and the nonextraction group.
   - True
   - False
4. The authors concluded that comparable percentages of improvement in the PAR scores among the 3 groups denoted that equivalent occlusal corrections were achieved in Class I patients with the nonextraction, first premolar extraction, and mandibular incisor extraction protocols.
   - True
   - False

**Article 2: *Streptococcus mutans* forms xylitol-resistant biofilm on excess adhesive flash in novel ex-vivo orthodontic bracket model, by Cindy S. F. Ho et al**

5. The purposes of this study were to evaluate the biofilm formation of *Streptococcus mutans* on excess adhesive flash (EAF) produced by 2 adhesives and to examine the therapeutic efficacy of xylitol on *S mutans* formed on EAF.
   - True
   - False
6. Biofilm formation of *S mutans* was evaluated for EAF around stainless steel preadjusted brackets and ceramic preadjusted brackets.
   - True
   - False
7. The authors reported that surface energy seemed to play a lesser role than surface roughness for *S mutans* biofilm formation on EAF.
   - True
   - False
8. The authors reported that xylitol seems to have a therapeutic effect on mature *S mutans* biofilm.
Article 3: Sixteen-week analysis of unaltered elastomeric chain relating in-vitro force degradation with in-vivo extraction space tooth movement, by Kristin S. Evans et al

9. The purposes of this study were to evaluate whether unaltered elastomeric chain can continue to move teeth for 16 weeks and to relate it to the amount of force remaining for the same batch of elastomeric chains.
   True
   False
10. The sample comprised 30 paired extraction space sites from 22 subjects.
    True
    False
11. The authors reported that a force of less than 100 g apparently had a clinical influence on tooth movement in this sample.
    True
    False
12. The authors concluded that unaltered elastomeric chains did not continue space closure throughout the 16 weeks of measurement.
    True
    False

Article 4: Racial and sex differences in timing of the cervical vertebrae maturation stages, by Mona A. Montasser et al

13. The objective of this study was to investigate the skeletal maturation of female and male subjects from different racial groups by comparing cervical vertebrae maturation (CVM) stages.
    True
    False
14. This retrospective cross-sectional study included 3 major racial groups: African Americans, Hispanics, and whites of European descent, with each group subdivided into males and females.
    True
    False
15. The authors reported that in the comparison of age at each CVM stage among the 3 racial groups, Hispanic children showed differences from both whites and African Americans.
    True
    False
16. The authors recommended, when using CVM stages as a skeletal maturation indicator, that racial and sex differences should be considered.
    True
    False