After completing this course, the participant will have:
1. An awareness of the effect that orthodontic correction of malocclusion may have on gastric emptying rates.
2. An understanding of the impact of a supplemental vibration device on acceleration of orthodontic tooth movement and the potential reduction of pain.
3. Familiarity with esthetic perceptions by orthodontists and laypeople for variations of vertical canine positions and gingival zenith exposures.
4. An appreciation of the stress distribution around mandibular second molars when uprighting by using different uprighting techniques.

**Article 1: Gastric emptying rate before and after orthodontic treatment examined with the [13C] breath test: A pilot test, by Jumpei Suzuki et al**
1. The aim of this study was to investigate the changes in masticatory function and gastric emptying rate in patients with malocclusion, before and after orthodontic treatment.
   True
   False
2. The experimental measurements were made on the experimental and control groups at 2 time points 30 months apart.
   True
   False
3. The authors reported that a significant difference was measured between the postorthodontic treatment group and the control group.
   True
   False
4. The authors concluded that there was no evidence of improvement in masticatory function in patients after orthodontic treatment, since no alteration in gastric emptying rate occurred.
   True
   False

**Article 2: Effect of supplemental vibration on orthodontic treatment with aligners: A randomized trial, by Mina Katchooi et al**
5. The purpose of the study was to investigate the effects of the AcceleDent Aura device on Invisalign treatment.
   True
   False
6. Adolescent and adult patients who were beginning their Invisalign treatment were randomly allocated to either an active or a sham AcceleDent Aura device.
   True
   False
7. The authors reported that the use of the AcceleDent Aura device had no significant effect on reduction of orthodontic pain levels.
   True
   False
8. The authors concluded that they found no evidence that the AcceleDent Aura device impacts the ability to complete a series of aligners with a 1-week change regimen.
   True
   False
Article 3: Influence of canine vertical position on smile esthetic perceptions by orthodontists and laypersons, by Thais Teixeira de Paiva et al
9. The objectives of this study were to verify the impact of alterations in the vertical position of the maxillary canines in smile esthetic perceptions and to determine whether exposure of the gingival margins directly affects laypersons’ perceptions.
True
False
10. The authors used a smile photograph of a male subject showing gingival zeniths. The vertical positions of the canines were altered in 4 photographs with display of the gingival margins; in another set of photos, the margins were covered.
True
False
11. The authors reported that the orthodontists were more concerned about the lack of gingival zenith exposure than were the laypersons.
True
False
12. The authors reported that both orthodontists and laypersons rated the standard smiles and the smiles with 0.5 mm of intrusion as the most attractive.
True
False

Article 4: Photoelastic analysis of stress distribution in mandibular second molar roots caused by several uprighting mechanics, by André Felipe Abrão et al
13. The aims of this study were to analyze and compare the stress distributions in different molar uprighting techniques.
True
False
14. To evaluate stress distributions around the mandibular second molar models, the authors used the technique where the appearance of optical fringes is the visible expression of loads used in photoelastic models that cause resin deformation showing areas of stress.
True
False
15. The authors reported that for the miniscrew test specimen the greatest concentration of strains was observed in the apical zone of the mesial root.
True
False
16. The authors concluded that the miniscrew mechanical action had the least strain means and the T-loop spring mechanical action had the greatest strain means on the roots of the mandibular second molar.
True
False