After completing this course, the participant will have:
1. A familiarity with a 3-dimensional coordinate system for assessment of directional changes in the growth of the craniofacial skeleton.
2. An awareness of the evidence in the literature on the effect of fixed functional appliances with multibracket appliances on mandibular growth.
3. An appreciation for factors that predict improvement of postorthodontic white spot lesions.
4. An understanding of the differences in accuracy when comparing models from alginate impressions with digital models scanned from polyvinylsiloxane impressions.

Article 1: Common 3-dimensional coordinate system for assessment of directional changes, by Antonio Carlos de Oliveira Ruellas et al

1. The aims of this study were to evaluate how head orientation interferes with the evaluation of the direction of changes observed in 3-dimensional (3D) space and to prepare a method to obtain a common coordinate system using 3D surface models.
   True
   False

2. The sample comprised 30 non-growing patients who had 2 cone-beam computed tomogram scans available at 2 time points taken at least 18 months apart.
   True
   False

3. The authors reported that measurements from the 3D surface mesh models registered relative to the cranial base (longitudinal studies) were not affected by the head position.
   True
   False

4. The authors concluded that the amount of directional changes in each plane of 3D space is strongly influenced by head orientation.
   True
   False

Article 2: Fixed functional appliances with multibracket appliances have no skeletal effect on the mandible: A systematic review and meta-analysis, by Ramy Abdul Rahman Ishaq et al

5. The purpose of this study was to assess the skeletal mandibular changes in circumpubertal patients with fixed functional appliances installed on multibracketed appliances compared with untreated patients.
   True
   False

6. In this systematic review, the quality of the articles was evaluated using the Cochrane Collaboration risk of bias tool and the Newcastle-Ottawa scale for prospective controlled clinical trials.
   True
   False

7. The authors reported that the vertical dimension of mandibular growth was affected by fixed functional appliances.
   True
   False

8. The authors concluded that based on strong evidence, fixed functional appliances attached to multibracketed appliances have no significant positional or dimensional skeletal effects on the mandible.
   True
   False
Article 3: Predicting improvement of postorthodontic white spot lesions, by Susan Kim et al

9. The aim of this study was to identify patient-related and tooth-related factors that exacerbated white spot lesions in orthodontic patients.
True
False

10. The study’s sample comprised 728 photographs of portions of maxillary incisors affected by white spot lesions.
True
False

11. The authors reported that overall they observed a tendency for white spot lesions to become worse during the 8-week period of observation.
True
False

12. The authors concluded that sex, oral hygiene status, retainer type, location of the lesion (gingival, middle, incisal), staining, and lesion diffuseness were predictive for improvement in the lesion’s appearance.
True
False

Article 4: Effect of polyvinylsiloxane material and impression handling on the accuracy of digital models, by Leonardo Tavares Camardella et al

13. The objective of this study was to evaluate the accuracy and reliability of measurements on digital models obtained by scanning impressions 5, 10, and 15 days after they were made from 2 soft-putty polyvinylsiloxane materials.
True
False

14. Plaster models poured from alginate impressions were compared with the digital models constructed from laser scanning of the polyvinylsiloxane impressions for each subject.
True
False

15. The authors reported that the polyvinylsiloxane impressions scanned after 15 days resulted in inaccurate digital models.
True
False

16. The authors concluded that with the exception of overbite, all measurements on the plaster and digital models were considered to be clinically significantly different.
True
False