After completing this course, the participant will have:
1. A familiarity with what the published studies report concerning the comparison of diagnostic accuracy and measurement sensitivity between virtual dental study models and plaster models.
2. An awareness of the association between orthodontic tooth movement of the mandibular incisors and the marginal alveolar bone.
3. Knowledge about the occurrence and nature of unexpected complications with mandibular fixed retainers over time.
4. An understanding of the failure rates of metal brackets bonded with different light-emitting diode devices and curing times.

**Article 1: Diagnostic accuracy and measurement sensitivity of digital models for orthodontic purposes: A systematic review, by Gabriele Rossini et al**

1. The objective of this study was to assess the accuracy, validity, and reliability of measurements obtained from virtual dental study models compared with those obtained from plaster models.
   - True
   - False

2. For this systematic review, case reports, reviews, abstracts, author debates, summary articles, and animal studies were excluded from the review process.
   - True
   - False

3. The authors reported that the most recurrent sources of error for measurements on digital models were landmark positions and the low accuracy of interproximal surfaces, and these errors did influence the clinical outcomes.
   - True
   - False

4. The authors concluded that digital models are as reliable as traditional plaster models, with high accuracy, reliability, and reproducibility.
   - True
   - False

**Article 2: Evaluation of marginal alveolar bone in the anterior mandible with pretreatment and posttreatment computed tomography in nonextraction patients, by David T. Garlock et al**

5. The objectives of this study were to evaluate the periodontal pocket depths of the anterior mandibular teeth after orthodontic treatment and to assess any correlations between morphologic and treatment changes.
   - True
   - False

6. The study comprised 57 patients who had nonextraction treatment by 1 practitioner.
   - True
   - False

7. The authors reported that changes in the IMPA in this sample were not correlated with facial vertical bone loss.
   - True
   - False

8. The authors concluded that the mandibular incisor apex moving toward cortical bone did not correlate with facial vertical bone loss.
   - True
   - False
Article 3: Unexpected complications associated with mandibular fixed retainers: A retrospective study, by Josef Kučera et al

9. The purposes of this retrospective study were to describe the types of unexpected complications associated with mandibular fixed retainers and to assess their prevalence and possible etiologic causes.
   True
   False

10. Of the 3500 consecutive patients who were screened during the retention period, 38 had unexpected complications and were compared with the remainder of the sample.
   True
   False

11. The authors reported that the strong asymmetry among the patients with the twist effect suggests that the mechanical properties of retention wires may play a role in the occurrence of unexpected complications.
   True
   False

12. The authors concluded that unexpected complications of mandibular fixed retainers are relatively common.
   True
   False

Article 4: In-vitro bond strengths and clinical failure rates of metal brackets bonded with different light-emitting diode units and curing times, by Abdullah Alper Oz et al

13. The purpose of this study was to compare the clinical failure rates and the in-vitro bond strengths of metal brackets bonded with different light-emitting diode (LED) devices and curing times.
   True
   False

14. The clinical portion of the study comprised 20 patients with a mean age of 14.3 years.
   True
   False

15. The authors reported that the clinical bracket failure rate was greater for the 3-second light-curing with a VALO LED unit compared with the 10-second light-curing with the Elipar LED unit over a 12-month period.
   True
   False

16. The authors concluded that high light intensity LED units for bracket bonding can save chair time without increasing failure rates.
   True
   False