

After completing this course, the participant will have:

1. An understanding of the mechanical behavior of a newly designed closing loop using the finite element method to evaluate.
2. Familiarity with the use of the Liou-alternate rapid maxillary expansion/constriction (Alt-RAMEC) technique in patients with skeletal Class III malocclusions.
3. An appreciation of how laypeople and orthodontists view alterations in the profile of a female subject with retrognathia.
4. Awareness of the accuracy of virtual bracket removal (VBR) techniques in fabricating orthodontic retainers from 3-dimensional-printed models.

**Article 1: Simulation of orthodontic tooth movement during activation of an innovative design of closing loop using the finite element method, by Tuan Nguyen Anh et al**

1. The objectives of this study were to clinically evaluate orthodontic tooth movement during the activation of a newly designed closing loop combined with a gable bend and to investigate the optimal activation conditions to achieve the desired tooth movement.  
TRUE  
FALSE
2. The basic design of the closing loop examined in this study was a teardrop that was 10 mm in height and 2 mm in width, bent from a 0.019 × 0.025-in stainless steel archwire.  
TRUE  
FALSE
3. The authors reported that a gable bend of 15° in the archwire demonstrated lingual root tipping of the central incisor of 1.14°.   
TRUE  
FALSE
4. The authors concluded that torque control of the anterior teeth and anchorage control of the posterior teeth could be carried out effectively and simply by reducing by half the thickness of the teardrop loop as described to a distance of 3 mm from its apex and by incorporating various degrees of a gable bend into the loop.  
TRUE  
FALSE

**Article 2: Long-term follow-up of late maxillary orthopedic advancement with the Liou-Alternate rapid maxillary expansion/constriction technique in patients with skeletal Class III malocclusion, by Maria Constanza Meazzini et al**

5. The objective of this study was to evaluate short and long-term results of the application of the Alt-RAMEC technique in patients with skeletal Class III malocclusion.  
TRUE  
FALSE
6. In the experimental group, after completion of the expansion/constriction cycles, maxillary protraction was delivered using a reverse pull headgear appliance.  
TRUE  
FALSE
7. The authors reported an average maxillary advancement for the experimental study group of 5.9 mm + 1.7 mm.  
TRUE  
FALSE

8. The authors concluded that the Liou-Alt-RAMEC technique should be performed before the pubertal growth spurt.  
TRUE  
FALSE

**Article 3: Attractiveness assessment by orthodontist and laypeople judging female profile modifications of Class II Division 1 malocclusion, by Kadriye Kalin et al**

9. This study aimed to investigate and compare the judgments of laypeople and orthodontists on the effect of different soft tissue alterations on the profile of a female patient with a Class II Division 1 malocclusion with mandibular retrognathia, produced by software simulated camouflage or mandibular advancement treatment.  
TRUE  
FALSE
10. The study population comprised 162 laypeople and 44 orthodontists.  
TRUE  
FALSE
11. The authors reported that laypeople found the camouflage treatment less attractive than did the orthodontists.  
TRUE  
FALSE
12. The authors concluded that the untreated baseline profile of a female subject with mandibular retrognathia was judged least attractive by both laypeople and orthodontists.  
TRUE  
FALSE

**Article 4: Three-dimensional assessment of virtual bracket removal for orthodontic retainer: A prospective clinical study, by Kaitlin Marsh et al**

13. This prospective clinical study aimed to validate a novel technique for VBR in-office, comparing its retainer fabrication accuracy to traditional bracket removal with impressions and 2 orthodontic laboratories that use VBR for retainer fabrication.  
TRUE  
FALSE
14. All measurements for VBR accuracy assessment were performed by 2 separate investigators using the vector analysis module to ensure interexaminer reliability.  
TRUE  
FALSE
15. The authors reported a statistically significant difference between the 2 laboratories, with Orthodont Laboratory showing lower accuracy than New England Orthodontic Laboratory.  
TRUE  
FALSE
16. The authors concluded that the VBR techniques using the in-office Meshmixer VBR protocol or the 2 orthodontic laboratories were considered accurate enough for clinical use of orthodontic retainers fabricated from 3-dimensional-printed models.  
TRUE  
FALSE