

After completing this course, the participant will have:

1. Familiarity with average changes in the dental arch dimensions that may be expected over time.
2. An awareness of the differences between fixed and removable retainer outcomes after 4 years of wear.
3. An understanding of what published evidence implies concerning the effect on the vertical skeletal dimensions after either 4 premolar extraction treatment or nonextraction treatment protocols.
4. Knowledge about treatment changes in the craniofacial complex from a Herbst appliance protocol compared with a Class II elastic protocol.

**Article 1: Maturational changes of the normal occlusion: a 40-year follow-up, by Camila Massaro et al**

1. The aims of this study were to evaluate the changes in dental arch dimensions, tooth sizes, and incisor crowding in subjects with normal occlusion over a 40-year period.

True

False

2. The final sample comprised 22 subjects (12 men, 10 women) who were assessed at 3 ages with means at T1 of 13.3 years, T2 of 17.8 years, and T3 of 60.9 years.

True

False

3. The authors suggested that clinicians should be restrained in indicating periodontal procedures for surgical crown lengthening because of the natural increase in clinical crown length with age.

True

False

4. The authors reported the following dimensional changes from adolescence to late adulthood: decreases in mesiodental tooth size and increases in clinical crown height; decreases in mandibular intercanine width and interpremolar and intermolar distances; decreases in arch length, arch perimeter, overbite, and overjet; and increases in mandibular anterior crowding and palatal depth.

True

False

**Article 2: Effects of fixed vs removable orthodontic retainers on stability and periodontal health: 4-year follow-up, by Dalya Al-Moghrabi et al**

5. The objectives of this study were to compare the stability of treatment, the propensity for breakage, and the periodontal health with fixed vs removable orthodontic retainers over a 4-year period.

True

False

6. The measures used to evaluate the periodontal outcomes were modified gingival index, plaque index, calculus index, clinical attachment level, and bleeding on probing.

True

False

7. The authors reported that the noncompliance levels for the removable vacuum-formed retainers ranged from 0% over the initial 6 months, to 19% at 6 to 12 months, 52% in the second year, and 67% thereafter.

True

False

8. The authors concluded that fixed retainers may be more effective in retaining mandibular anterior alignment compared with removable retainers at a 4-year follow-up, although some changes arose in each group.

True

False

**Article 3: Effect of orthodontic treatment with 4 premolar extractions compared with nonextraction treatment on the vertical dimensions of the face: a systematic review, by Georgios Kouvelis et al**

9. The aim of this study was to assess the available evidence for the effects of orthodontic treatment with 4 premolar extractions on the skeletal vertical dimension of the face compared with nonextraction treatment.

True

False

10. This systematic review ultimately included 14 articles for analysis.

True

False

11. The articles used in this systematic review had moderate to high quality as opined by the authors.

True

False

12. The authors concluded that there is no specific effect of 4 premolar extraction treatment compared with nonextraction treatment protocols on the vertical dimensions of the face.

True

False

**Article 4: Three-dimensional treatment outcomes in Class II patients with different vertical facial patterns treated with the Herbst appliance, by Arjun Atresh et al**

13. The purposes of this study were to evaluate, using 3-dimensional superimposition techniques, the skeletal changes in Class II subjects with different vertical facial patterns treated with the Herbst appliance and to compare these changes with changes in Class II controls treated with elastics.

True

False

14. The study's sample comprised 2 Herbst appliance groups, 16 brachyfacial and 16 mesofacial patients, compared with a control group of 11 patients treated with only Class II elastics.

True

False

15. The authors reported that significant differences in Herbst appliance treatment responses were seen in the brachyfacial subjects with greater vertical changes vs the mesofacial subjects.

True

False

16. The authors' overall conclusion was that, 2 years after Herbst treatment, the Herbst subjects with different vertical facial patterns showed similar patterns of skeletal changes compared with the Class II controls treated with elastics.

True

False