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Learning Objectives

After completion of this exercise, the participant will be able to:

1. Contrast a new bone-anchored modification of the Pendulum appliance with other versions.
2. Describe management and practice-building methods that appear to correlate with higher net income and numbers of cases.
3. Compare two commercially available software programs in voxel-based superimposition of CBCT images.
4. Prescribe subtractive coronoplasty to reduce enamel deformities and improve lingual orthodontic mechanics.

Article 1

Nappée, F.J.; Nappée-Miévilley, M.; and Hilgers, J.J.: *The Pendulis Appliance for Bone-Anchored Maxillary Molar Distalization* (pp. 636-646)

1. The innovative part of the Pendulis appliance is a:
 - a) stainless steel Unitek O-Cap
 - b) palatal 3M miniscrew
 - c) Nance acrylic button
 - d) TMA spring
2. The authors use clear acrylic for the Nance button to:
 - a) avoid distortion during appliance placement
 - b) keep the springs safely away from the palate
 - c) allow visualization of any mucosal bleaching
 - d) all of the above
3. Each step of Pendulis handling can be accomplished with a:
 - a) band-seating plier

- b) bond-removing plier
 - c) bird-beak plier
 - d) Weingart plier
4. If the upper second molars are present, a stronger distalizing force can be applied to the upper first molars by using:
 - a) .032" TMA springs
 - b) .036" TMA springs
 - c) toe-in bends at the sheath ends of the springs
 - d) bicortical anchorage

Article 2

Keim, R.G.; Vogels, D.S. III; and Vogels, P.B.: *2019 JCO Orthodontic Practice Study* (pp. 647-661)

5. Compared with other respondents, practices with high net income reported:
 - a) significantly higher overhead rates
 - b) slightly higher overhead rates
 - c) significantly lower overhead rates
 - d) slightly lower overhead rates
6. Among the management methods listed, the high net income practices were significantly more likely than other respondents to use:
 - a) written philosophy of practice
 - b) employee with primary responsibility as communications supervisor
 - c) pretreatment flow control system
 - d) monthly accounts-receivable reports
7. Among expanded services, the high net income practices gave a significantly higher effectiveness rating than the other respondents to:
 - a) open a satellite office
 - b) treat adult patients
 - c) lingual orthodontics

- d) cosmetic/laser treatment
- 8. The practice-building category ranked highest by the high net income practices was:
 - a) new-patient incentives
 - b) internal referrals
 - c) management changes
 - d) expanded services

Article 3

- Elshebiny, T.; Elbarnashawy, S.; Bennisir, E.; Nadim, M.A.; and Palomo, J.M.: *Comparison of Two Software Programs in Voxel-Based Superimposition of CBCT Images* (pp. 662-668)
- 9. A voxel can be considered the three-dimensional equivalent of a:
 - a) vowel
 - b) millimeter
 - c) fractal
 - d) pixel
 - 10. The reference standard for voxel-based superimposition is known as the:
 - a) CBCT technique
 - b) Hounsfield unit
 - c) Cevidanes method
 - d) Case Western procedure
 - 11. In OnDemand3D's fusion program:
 - a) the anatomical structures of the anterior cranial base are selected from slices of the CBCT volumes
 - b) the CBCT images are approximated using at least three landmarks for each volume
 - c) a position-refining tool is used to manually refine the registration
 - d) both b and c
 - 12. In this study, color-mapped surface distances showed an absolute mean difference in superimposition between the two software programs of:
 - a) 0mm

- b) less than .5mm
- c) .86mm
- d) more than 1.5mm

Article 4

- Gilot, E.; Cuzin, J.F.; Asscherickx, K.; and Maes, P.: *Subtractive Coronoplasty Before Lingual Appliance Design* (pp. 678-682)
- 13. The location of a tooth's center of resistance depends on:
 - a) the length and shape of the tooth
 - b) the number and shape of the roots
 - c) the height and density of surrounding alveolar bone
 - d) all of the above
 - 14. If a lingual bracket is bonded 5mm from the palatal surface, a torque variation of 7° will create a vertical error of:
 - a) .2mm
 - b) .5mm
 - c) 1mm
 - d) 1.7mm
 - 15. The lingual interbracket distance can be increased by:
 - a) positioning the brackets closer to the lingual surfaces
 - b) positioning the brackets closer to the palate
 - c) reducing bracket size
 - d) both a and c
 - 16. To reduce lingual enamel abnormalities of more than 1mm, the authors recommend:
 - a) two sessions of subtractive coronoplasty
 - b) a single subtractive coronoplasty
 - c) a subtractive coronoplasty followed by air-rotor stripping
 - d) a subtractive coronoplasty followed by splint appliance therapy