Letters From Our Readers

To: Editor, *The Angle Orthodontist*

Re: Response to: Effects of rapid maxillary expansion on upper airway volume: *A three-dimensional cone-beam computed tomography study*. Yousef Abdalla, Louise Brown, Liselotte Sonnesen. *Angle Orthod*. 2019; 89: 917-923.

We would like to thank the reader for his interest in our article. The answer to his question on whether rapid maxillary expansion (RME) has caused an increase in the airway volume and minimum cross-sectional area (MCA) is that RME treatment has no significant effect on the airway volume and minimal cross-sectional area (MCA) in children when compared to controls. There was a significant increase in airway volume and MCA in both RME and control groups between T_0 and T_1, however there was no significant difference between the changes in the two groups. It was therefore concluded that the airway changes seen in both groups were due to growth and not the effects of the RME. The present study used a previously published method of upper airway measurement, which has been validated and showed excellent intra- and inter-examiner reliability. This method did not include measurements of the nasal cavity. Thus, eventual changes in the nasal cavity between T_0 and T_1 were not included in the present study.

The reader also asks if there is any expectation of an increase in the upper airway volume and MCA. In the discussion we speculated that the lack of observed differences in the airway changes of the control and RME groups may be due to the compensatory mechanism of the head posture on compromised upper airway dimensions.[1,2]

We are aware of the controversy regarding the routine use of CBCT in orthodontics and we acknowledge the reader's sentiments on CBCT. However, the indication for the use of CBCT varies between countries. In Australia and in the United States there is a reasonable body of orthodontic opinion, which would support the use of CBCT for diagnostic purposes and no state or federal laws or clinical directives preventing their use for these purposes.[3]

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2. Sonnesen L, Petersson A, Berg S, Svanholt P. Pharyngeal airway dimensions and head posture in obstructive sleep apnea patients with and without morphological deviations in the upper cervical spine. *J Oral Maxillofac Res*. 2017;8(3): e4.
3. Scarfe WC, Azevedo B, Toghyani S, Farman AG. Cone beam computed tomographic imaging in orthodontics. *Aust Dent J*. 2017 Mar;62:33–50.