

Letters From Our Readers

To: Editor, *The Angle Orthodontist*

Re: Response to: Value-addition of lateral cephalometric radiographs in orthodontic diagnosis and treatment planning by Anjali Dinesh, Sunil Mutalik, Jonathan Feldman, and Aditya Tadinada. *Angle Orthod.* 2020;90:665-671.

Thank you for reading our work and for your comments on the study. We fully recognize the value of a lateral cephalometric exam and agree with your list of observations. Please recognize that our conclusions are based on the study we conducted and the readers must appreciate the context as well as the limitations of the study. The key point our study was trying to convey to the reader is to alert the clinician to stop and consider the risk vs benefit analogy for exposing vulnerable population groups to ionizing radiation. The most important principle of radiation safety is “As Low as Reasonably Achievable” (ALARA). This is of particular importance in orthodontic patients who are more vulnerable to ionizing radiation than older individuals.

The topic we studied is not a particularly new one but the timing of the study is valuable especially since it comes at a time when CBCT is being increasingly used for complex cases. Some of the studies that have asked a similar question, like the study by Silling et al¹ dates back to 1979 where they found that, for obvious cases, lateral cephalometric exams were not necessary but might be necessary for complicated cases. At the time of that study, the option of using CBCT for challenging cases did not exist. Today, if we had a complicated case, it might require extensive analysis with the help of digital models and 3-D images and we typically plan the treatment roadmap during clinical

evaluation. But the studies done by Devereux et al² in 2011 showed that the lateral cephalometric image did not have a significant impact on treatment. Similarly, Stupar et al³ in 2016 showed that lateral cephalometric images had no influence on their extraction treatment planning decisions. These variations in literature show that every case is unique in its own way where a lateral cephalometric exam or a CBCT exam could be helpful based on the case and a case-specific imaging decision spares individuals from unnecessary radiation exposure.

We particularly appreciate your observation regarding incidental findings and would like to take the opportunity to emphasize the value of adequately evaluating the entire image if 2-D, and the entire volume of data if 3D, for identifying and diagnosing incidental findings for appropriately triaging the condition.

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REFERENCES

1. Silling G, Rauch M, Pentel L, et al. The significance of cephalometrics in treatment planning. *Angle Orthod.* 1979;49: 259–262.
2. Devereux L, Moles D, Cunningham S, et al. How important are lateral cephalometric radiographs in orthodontic treatment planning? *Am J Orthod Dentofacial Orthop.* 2011;139: 175–181.
3. Stupar I, Yetkiner E, Attin T, et al. Influence of lateral cephalometric radiography on treatment planning and preferences in skeletal open-bite patients: do lateral cephalograms influence treatment planning? *Turk J Orthod.* 2016; 29:87–90.