

Letters From Our Readers

To Editor, *The Angle Orthodontist*

Re: Effect of continuous versus intermittent orthodontic forces on root resorption: A microcomputed tomography study by Nurhat Ozkalayci; Ersan Ilsay Karadeniz; Selma Elekdag-Turk; Tamer Turk; Lam L. Cheng; M. Ali Darendeliler. *Angle Orthod.* 2018; 88: 733–739.

We want to praise Dr. Darendeliler and his group for another excellent short-term in-vivo study on orthodontic root resorption, published in the November 2018 issue of *The Angle Orthodontist*. We would like to clarify that the defense mechanism (DM), previously termed as 'orthodontically induced inflammatory root resorption'¹ and, later replaced by the term 'instrumental orthodontitis'^{2,3} and 'instrumental detrimental orthodontitis' (reversible and irreversible, respectively), is a full cycle of the process inherited in the tissues involved. It is not only the repair phase of the cemental or even dentinal resorption seen at the end of the cycle, as written in the article. As we understand, any physiologic DM initiates immediately, when the body is exposed to a change that might harm or threaten its homeostasis and/or survival. The reaction to cold weather, for example, which is a well-known and fully documented DM, initiates by the goose bump reflex, shivering, reduced blood flow to the skin and might even end with death. Initial DM reactions are reversible and final DM reactions are not. Similarly, the reaction to force application on the teeth initiates with recruitment of cells that remove the necrotic tissues, continues with bone and cemental/dentinal resorption probably in

order to decrease the local pressure by increasing the root surface, and finally with apposition (reversible), or not (irreversible). Those 2 phases, the resorption and the apposition, as we meant in our previous publications², are integral parts of the same process. It is important to mention that this study contributes immensely to the understanding of the defense mechanism by demonstrating the differences between continuous and intermittent orthodontic forces, in different areas of the root. We unfortunately did not find an explanation of the fact that the amount of resorption in the apical zone was the lowest in both groups.

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2. Brezniak N and Wasserstein A: Effects of short-term in-vivo studies on orthodontic root resorption paradigms. *Am J Orthod Dentofacial Orthop.* 2017;152:1.
3. Brezniak N and Wasserstein A. Orthodontic Root Resorption: A New Perspective. *Angle Orthod.* 2016;661056–1057.