

READER'S FORUM

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**Effectiveness of low-level laser therapy
in facilitating maxillary expansion using
bone-borne hyrax expander: A randomized
clinical trial.**

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It is very interesting that the authors applied low-level laser therapy (LLLT), which is used in other fields of dentistry since the procedure is painless with little side effects, for non-surgical maxillary expansion. I hope that LLLT helps the patients experience less discomfort and better outcome of the expansion. To better understand, I would like to ask some questions.

Q1. In the discussion, the authors suggested that LLLT induced greater expansion, reduced the relapse, kept the maxilla in its forward position, and induced a more parallel sutural opening. However, in the conclusion, the authors concluded that LLLT did not clinically affect the efficiency and the outcome of the expansion. Since the points do not match with each other, I would like to ask the authors' final opinion about the application of LLLT for non-surgical maxillary expansion.

Q2. The authors proposed that LLLT can help the bone regeneration and of the mid-palatal suture (MPS) and the healing of MPS, so less relapse can happen. Actually, having a three-month retention period can be a great inconvenience to the patient, so it would be a great advantage if LLLT can actually reduce it by ac-

celerating the MPS healing. Are there any plans to do further studies on whether LLLT can actually reduce the retention period?

Q3. In this study LLLT was applied to the patients in many stages, implying that to get the results we want, patients have to come to the office many times, which can be very inconvenient. I wonder if the advantages of LLLT, as to possible reduction in retention period or better outcome, are greater than this inconvenience. I would like to ask the authors whether there are other protocols with fewer stages in application of LLLT, and whether those protocols could also induce similar results.

Questioned by

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A1. According to the measurements in this study, there has been a statistically significant increase in the readings, though they were not obvious clinically. Therefore, our opinion would be to build future studies with modifications of LLLT dose, frequency, sites and longer follow up periods that might lead to clinically significant outcomes.

A2. There are further plans in studying the effect of LLLT effect on the MPS healing with a shorter retention phase to confirm LLLTs immediate effect of LLLT. In this study, a longer retention period has been chosen according to the guidelines of radiation exposure to the patient. In future studies, different imaging techniques with different amount of radiation exposure can be used.

A3. We agree that the protocol used in this study was inconvenient for the patient and the practitioner, though it was the standardized protocol by Cepera et al.¹ As a suggestion for future studies, it is highly recommended to use this study as a research model to compare different LLLT protocols that are more practical and convenient which would induce similar and hopefully better results.

Replied by

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Reference

1. Cepera F, Torres FC, Scanavini MA, Paranhos LR, Capelloza Filho L, Cardoso MA, et al. Effect of a low-level laser on bone regeneration after rapid maxillary expansion. Am J Orthod Dentofacial Orthop 2012;141:444-50. <https://doi.org/10.1016/j.ajodo.2011.10.023>

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