

The case presented here demonstrates effective and efficient RPE using the second-generation KKE. Successful expansion of the upper arch facilitated a nonextraction treatment plan and avoided exacerbation of a retrusive profile.

The most common problem reported by patients using the Hyrax*** expander is difficulty “finding the hole” of the appliance, according to preliminary results of an ongoing study at the Harvard School of Dental Medicine.¹¹ This leads to frustration for both patients and parents, missed activation turns, and delayed expansion progress. The KKE eliminates that obstacle. The patient shown here was able to activate the expander completely on her own, without difficulty or assistance from her parents. No injuries, expander breakage, or other complications were reported during the expansion period.

Like the traditional hole-and-key jackscrew, the Keles Keyless screw component can be incorporated into a variety of expander designs, fixed or removable. The second-generation KKE, available in 8mm or 12mm expansion capacities, has been reduced in size to enable its use in patients in the mixed dentition or with narrow palatal vaults.

Further research is needed to explore the potential for incorporating the KKE into tissue-tooth-borne or boneborne expanders. A joint study is currently being conducted by the Harvard School of Dental Medicine and the Department of Orthodontics, Sydney Dental Hospital, to evaluate the dental and skeletal effects of the KKE.

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