

Orthodontic researchers ask: Where's your retainer?

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Have you been wearing your retainer? It's a question countless parents ask of their children post-braces. Now Case Western Reserve University School of Dental Medicine researchers are getting serious about the question.

"We found little written about the kinds of retainers prescribed and how compliant patients are in using them," said Case Western Reserve's Manish Valiathan, an assistant professor of orthodontics and a member of the American Board of Orthodontics. He notes that there is a dearth of information despite the devices being common in orthodontics practice.

Consequently Valiathan and fellow researchers embarked on three studies that examined how people are using retainers, which types are prescribed and what happens when patients don't follow up orthodontic work with a retainer.

After randomly sending 2,000 surveys to orthodontists throughout the country, researchers received responses from 658 practitioners regarding the kinds of retainers they prescribe. The majority (58.2 percent) prescribed removable retainers; about 40 percent opted for fixed lingual retainers that, once in place, are worn for life.

Post-braces, the majority of orthodontists said they required wearing removable retainers full-time for the first nine months and then part-time after that. They also encouraged part-time retainer use throughout

life.

Valiathan said that without retainers specific prior conditions may return but that definitive research does not exist as to what conditions require ongoing retainer use. More evidence is needed, he said.

Another survey study of 1,200 patients from four practices focused on patient compliance two years after prescribing retainers. Patients self-reported and 36 percent responded to the researchers' questions regarding type of retainer used, age, gender, length of time since braces were removed, and hours per day and night retainer is worn.

The overall responses showed that 60 percent wore retainers more than 10 hours a day in the first three months and 69 percent wore them every night. By the time retainer users reached 19 to 24 months, 19 percent were not wearing retainers but 81 percent were—even if it was only one night a week. About 4 percent never wore their retainer at all.

Research indicated that many patients were still using their original retainers two years later—a sign that teeth had not moved, Valiathan said. Additionally, researchers found that age, gender and the type of retainer did not impact compliance.

The third study was a pilot research project. It examined the ramifications of no retainer use within the first four weeks after braces removal. Researchers measured patients' teeth before and after for spacing issues, overbites, under bites and tooth crowding.

Thirty patients had the wires removed from their braces but kept the appliances affixed to the teeth to monitor any changes without a retainer. Nearly half of the participants showed no movement, and many showed positive settling of the back teeth including the molars. Some did require additional orthodontic treatment at the end of the four weeks.

"Further studies with a larger study population will let us know if some patients can go without using retainers," Valiathan said.

He added that orthodontic researchers need to study what kinds of conditions require long-term retainer use.

More information: For more detailed information, consult the studies mentioned in this report:

"Retainer wear and compliance in the first 2 years after active orthodontic treatment," in the American Journal of Orthodontics and Dentofacial Orthopedics (Volume 138, Number 5) was conducted by Case Western Reserve University School of Dental Medicine researchers—Kurtis A. Kacer, Manish Valiathan, Sena Narendran and Mark G. Hans.

"Results of a survey-based study to identify common retention practices in the United States," in the American Journal of Orthodontics and Dentofacial Orthopedics (Volume 137, Number 2) by Manish Valiathan from Case Western Reserve University School of Dental Medicine and Eric Hughes, a private practice dentist from Tuscaloosa, Ala.

"Short-term postorthodontic changes in the absence of retention" in Angle Orthodontist (Volume 80, Number 6) by Nadia Lyotard, private practice dentist from Houston, Texas; and Case Western Reserve University dental researchers Mark Hans, Suchitra Nelson and Manish Valiathan.

Provided by Case Western Reserve University

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