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COVER

On the cover: Clear aligner therapy is an accepted and popular treatment alternative for many patients. Globally, more than 27 different brands of clear aligners are available. Invisalign is the most widely used clear aligner, and the composition of its material has evolved over the years. Researchers studying an earlier Invisalign material (EX30) reported signs of abrasion, delamination, adsorption of integuments, and localized calcified biofilm deposits after use. Examinations of aligners made from a more recent material (LD30) found that the elastic modulus and hardness decreased after use and the material was more brittle, but no chemical differences between the new and used specimens were found. Dongyu Fang and colleagues in Beijing and Los Angeles used dynamic mechanical analysis (DMA) to test LD30 aligner material before use and after 2 weeks of clinical use. They found that mechanical properties, surface molecular structure, and internal structure were not significantly different after 2 weeks in the mouth. However, while the elements carbon, oxygen, aluminum, and silicon were evenly distributed within the new sample, the amounts of silicon and aluminum were much reduced in the 2-week group, indicating these elements were released during clinical use. The smiling patients on the cover are sisters Aby and Maguette Kandji, who were treated orthodontically by Drs. Lorenz Moser and Ute Schneider-Moser in Bolzano, Italy.

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Video available with article online at www.ajodo.org

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