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Have CLEAR ALIGNERS IMPROVED for Better Treatment?

For many patients seeking treatment for tooth alignment, there is the preferred option of clear aligners. In fact, Dr. Yan Razdolsky and the Forever Smiles team place or swap these orthodontic appliances on patients every day. And while he counsels that this treatment is not for everyone, he does suggest they can be a safe and effective way for some patients to achieve a straighter smile. But have they improved enough since their introduction to the market to provide better treatment? Let's explore!

In a study published June 2020 in the American Journal of Orthodontics and Orthopedics, a study on the efficacy of tooth movement with Invisalign or clear aligners concluded, "There was a marked improvement in the overall accuracy;

> however, the strengths and weaknesses of tooth movement with Invisalign remained relatively the same." (Haouili et al., 2020)



So, what does this mean? According to Dr. Yan, it means that successful and accurate treatment with clear aligners is predicated on the types of tooth movement required on a case-by-case

basis. In other words, clear aligners are not for everyone. But the question here is have clear aligners improved or evolved to provide better treatment? The short answer is yes. The longer answer? Yes, but of course there's more!

First invented in 1997, clear aligners are a moderately-priced, shorter-treatment term option for patients seeking minimal orthodontic alignment. Again, according to the research paper cited above, clear aligners afford patients who do not require a large amount of tooth movement a decent amount of improvement by moving them from 41% of alignment to an average of 50% overall tooth alignment. While this number may not seem like a lot, it can imply a noticeable difference in a smile's overall appearance and for some patients that is all they are looking for.

So, how did clear aligners come to make such a difference in the field of orthodontics?

Alongside the introduction to clear aligners, 2001 brought the first 3D oral scanner for digital impressions. These ingenious devices not only replaced the traditional goop impressions, Dr. Yan says this type of intra-oral mapping offers "a more accurate visualization of the patient's orthodontic need allowing for more precision in the development of the overarching treatment plan." (See what he did there?)

Dr Yan also said clear aligners, more specifically Invisalign materials have drastically improved through technology and continue to evolve decreasing the length of necessary treatment time for some patients.

"Today, aligners employ SmartForce attachments and SmartTrack materials to control tooth movement and move teeth more precisely and comfortably for shorter treatment times," said Dr. Yan "Kinda like a Jedi mind trick on your teeth, using 'the invisible force' to move teeth to the preferred alignment. For example, we can achieve 100% correction in less severe cases, but in complicated ones average correction is around 50%," he added.

So all this said, while clear aligners may have improved, they may still not be the right choice for some patients.

"We have learned Invisalign is not as effective in instances where a patient's teeth are severely rotated - more than 20 degrees, or off tilt - angled more than 45 degrees," said Dr. Yan. "They are also not as effective with patients who have larger gaps between teeth, have deep overbite, open bite, or in cases where extraction of teeth may be required. In these cases, we will likely explore and ultimately prescribe another form of treatment."

All-in-all, orthodontics is an evolving science. As technology changes, so too do the tools that allow for more accurate tooth movement, improved bite, quicker treatment, and better overall outcome. That's why Dr. Yan and the Forever Smiles team continue to share articles like this with patients, so they may learn the latest in orthodontic treatment options including this exciting and ever-changing one.

Haouili, N., Kravitz, N. D., Vaid, N. R., Ferguson, D. J., & Makki, L. (2020). Has Invisalign improved? A prospective follow-up study on the efficacy of tooth movement with Invisalign. *American Journal of Orthodontics and Dentofacial Orthopedics*, 158(3), 420–425. https://doi.org/10.1016/j.ajodo.2019.12.015

Thank you for being part of our Forever Smiles Family. If you have any questions about this newsletter or anything else, please do not hesitate to contact us at our Buffalo Grove office: **847-215-7554** or via email: **yan@razdolsky.com**. We look forward to providing you and our community with even more reasons to smile!

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