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aligners

international magazine of aligner orthodontics

case report
The necessity of multiple aligner attachments–a reality check

case report
A non-surgical orthodontic approach using clear aligners in a Class III adult patient

case report
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Jeremy Booth

Dental Tribune International

Aesthetics and digital triumph in the clear aligner market

Aligners are a prodigious success story of oral care, and I have been keenly following developments in the category as business editor at Dental Tribune International. Through interviews with leading experts and discussions with market analysts, I see an exciting relationship developing between aesthetics and digital media and dental technologies.

The rise to prominence of the nearly invisible orthodontic solution underscores the importance that modern-day consumers place on aesthetics. Since the modality was launched in the late 1990s, the possibility of treating mild cases of malocclusion discretely has led to millions of case starts around the world. But the lure of aesthetics is also serving to regulate the quality of treatment offerings and boosting innovation in the burgeoning arena of digital dental technologies.

Cost has often been named as a factor in the decision to opt for clear aligner therapy, but patients are increasingly unwilling to forgo quality in return for cash savings. The importance of aesthetics means that few are willing to risk a less reputable solution. Direct-to-consumer (D2C) providers have sought to maximise on the cost-saving appeal of aligners, by largely cutting out the clinician and passing some of the resultant cost-savings on to consumers; however, aligner therapy is increasingly being marketed as a premium orthodontic treatment, and the D2C systems that are doing well are those that place sufficient focus on the involvement of a treating dentist. Rumoured to be in line for bankruptcy, the largest provider of D2C clear aligners in the US for too long asked patients to choose between cost and quality, and changing tack at the 11th hour to offer practitioner-led treatment options may prove to be a case of too little, too late.

Aesthetics has always been a catalyst for oral care, but dentistry has never benefited so openly from mass media and the international beauty economy like it has done with aligner therapy in its quiver. Social media and video chat interfaces help to generate case starts, by placing added attention on the face and mouth. Many consumers already know the name of a brand that could provide them with a more normatively beautiful smile—they hear it while watching their favourite basketball team or pop star perform on YouTube, or they read it on a billboard on their way to university. It must be noted that these are new and significant developments.

It is not by chance that more general dentists are now providing their patients with clear aligner therapy. The tools that are now on hand to increase patient acceptance and to plan and execute expert treatment is simply outstanding. With help from the very latest technologies, including artificial intelligence and augmented reality, and using digital workflows, any general dentist can now deliver expert treatment for mild to moderate cases. Consumers are being moved by aesthetics, and digital technologies are moving teeth.

I look forward to following these developments together with readers.

Jeremy Booth
Dental Tribune International

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Dr Carlos Flores Mir talks about the orthodontic patient's treatment journey

Nathalie Schüller, Dental Tribune International

Professor of orthodontics Dr Carlos Flores Mir is the director of the orthodontic graduate programme and director of graduate studies at the University of Alberta's School of Dentistry in Edmonton in Canada and is in part-time private practice. During the fourth EAS congress, Prof. Flores Mir's presentation focused on the patient-centric factors of clear aligner treatment. During this interview, he talked to Dental Tribune International about achieving outcomes focused on the patient and the importance of the patient–dentist relationship.

Dr Flores Mir, you mainly teach orthodontics but also practise. Is working with patients something you wanted or felt you needed to do?
In Canada, universities want faculty in positions that involve clinical teaching to practise so that they can be effective teachers. This gives me the flexibility to work with patients outside the dental school, which I do once a week.

In your presentation, in looking at claims by clear aligner manufacturers, you mentioned that only 4.5% had evidence supporting their claims.
Yes, I summarised the various studies I mentioned in my presentation and took from them meaningful conclusions for us. Company data should not necessarily be discarded. Certainly, there is a larger potential of bias because the company is unlikely to publish data that doesn't benefit it. However, their beneficial data may also be factually correct.

In one of these studies,[1] it was found that more than half of the manufacturing companies claimed that aligner treatment is shorter. However, in my EAS presentation, I made the point that a shorter treatment time is not something we have seen consistently. Aligner treatment is not necessarily faster than treatment with fixed appliances; it can even take longer. The point is not whether aligner treatment is faster or not. In some patients, it makes more sense to use aligners, in others fixed appliances, and in yet others, hybrid treatment is necessary—as we have seen during this meeting.

Image: Mauro Calvone

In his paper at this congress, Dr Rooz Koshravi mentioned that he produces in-office aligners for adolescent patients and then provides them with one aligner or one maxillary and mandibular set and schedules them for two weeks later. Around fifty per cent of adolescent patients decide it is not for them. If a family would like to go ahead with clear aligner treatment without a test trial period like this, then the family may invest a considerable amount of money for the aligners and the adolescent may end up quitting the treatment. We cannot of course reimburse them for aligners already paid for by us to the manufacturing company. A good solution is to have the patient wear an Essix retainer for a period to test out the experience of wearing aligners. I mentioned in my presentation that we should identify or be developing a simple tool to identify patients who are psychologically ready for aligners before developing the aligner treatment plan. Aligner treatment could be appropriate for the case, but it becomes an issue if after one month the patient is not going to use the aligners.

In another presentation at the congress, compliance problems due to the length of treatment were mentioned. Why do you think compliance is such an issue?
In my view from the treatments I have done, after around one year, patients lose steam. In the case of adolescents, it is sometimes their parents who perceive the need for treatment, which is not a good starting point for compliance-driven treatment. There are patients willing to wear aligners, but in their minds, it is a six-month journey. If you manage the treatment in that time, they are going to be very good patients. But if the case is complex and will thus take longer, it does not mean that you cannot treat them, but the treatment duration might result in losing these patients because of eroded motivation.

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Okay, so treatment duration is the main issue with lack of compliance. I would think that the expense of the treatment would encourage compliance.
Indeed, the initial cost for the production of an unlimited number of trays over a period is significantly more than the cost of fixed appliances. The argument for aligners is that you can see patients less frequently, but I think that it's actually to your benefit to see a patient regularly enough to facilitate a relationship of trust. That would mean that if treatment isn't proceeding as desired the patient, based on her relationship with you, will perceive and appreciate your efforts to help, and if issues arise with the treatment, solutions will be easier to implement because the patient will have more confidence in the treatment and in you.

Indeed! You talked as well about DentalMonitoring being a good tool, but needing the hand of the clinician. In a workshop I attended, the practitioner told the audience that his team was learning more and more and increasingly able to interact more with the patient without always needing the practitioner. I think that patient–dentist interaction is vital and that patients desire interaction with their dentists. What do you think?
The data we have so far is that you may save one or two months of treatment by using a tool such as DentalMonitoring because it allows you to identify teeth not moving properly, but if you were to see the patient every six weeks, compared with every four months, the monitoring is probably not going to make a big difference because you are going to see issues reasonably fast. However, for a patient who lives far from the office and thus of course does not want to come too often, DentalMonitoring provides a management alternative to allow the patient to visit the office every six months. In such a case, aligner treatment may be an option, but the patient is deciding not to see you so often. That sets a different expectation. In such a case, DentalMonitoring can allow us to monitor progress at a distance. I think we need to be careful when talking about efficiency and not elevate efficiency over service to our patients.

You also talked about direct-to-consumer (DTC) orthodontics, for which the cost of treatment seems to be the major factor for patients, but may be undesirable because of the complexity of orthodontic treatment, for example. You mentioned reducing the cost and increasing the convenience of orthodontic treatment to avoid patients seeking DTC orthodontics. Has this worked in your experience, and have you seen other ways to educate patients about why they should avoid DTC aligners?
There is something very important that I should have said. The first potential problem with DTC is that the initial step of establishing whether patients are healthy enough to have their teeth moved could have been left out. Patients have no means of evaluating by themselves, whether they are healthy enough. My concern with DTC aligners would be the lack of a provider taking that first step to determine whether the patient is a good candidate for such treatment. Another potential problem is that patients do not necessarily have the same goals as their providers. In reality, the patient is the one deciding. This is an elective treatment. We should aim for perfection, but perfection does not necessarily provide patients with a benefit that they can clearly perceive.

In your presentation, you mentioned a study[2] that deals with patient satisfaction after orthodontic treatment, part of the patient dissatisfaction arose in relation to treatment duration and the use of retention appliances. Do you think that these aspects are not addressed adequately in the planning stages of treatment?
Retention is explained of course, but the reality is that a verbal explanation is different from actually using a retainer. If you wore a fake retainer for a month, you would understand what it actually means. Regarding length of treatment, I think biology is biology. There are various efforts in the market to accelerate orthodontic treatment. For a 24-month treatment, we may be able to finish it in 22 or 23 months, when using an adjunctive tooth movement accelerating device or approach, but is the patient willing to pay more to shorten the duration? Most patients do not see saving one or two months as a clear benefit. We can also finish a treatment earlier if the patient is happy with the results at that point. So, we can finish the treatment earlier without having reached our predetermined goals. In the end, the patient really decides when he or she is happy with the results.

So, are we getting what the patient wants?
It seems that we are quite consistent in satisfying patient expectations both with fixed appliances and with aligners. Orthodontics is expensive treatment, but patients pursue it because we deliver. For the first two weeks, fixed appliances and aligners are not an easy, comfortable journey, but patients get used to them. I think that hybrid treatments are the best way to go. The best of both worlds is combined for a more efficient and satisfying journey for our patients.

References

1 Shi C, Feng Y, Hsiao Y-C, Smith J, Jin C, Farella M, Mei L. Clear aligners brands and marketing claims: An overview of available information on the web. Australasian Orthodontic Journal. 2022 July;38(2):252–62.
2 Pachêco-Pereira C, Pereira JR, Dick BD, Perez A, Flores-Mir C. Factors associated with patient and parent satisfaction after orthodontic treatment: A systematic review. American Journal of Orthodontics & Dentofacial Orthopedics. 2015 Oct;148(4):652–9.

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