The Concept of Progressive Smile Design and its potential impact on Cosmetic Dentistry

By Dr. Tif Qureshi, UK

Cosmetic dentistry is commonly at the forefront of everything interesting and exciting in dentistry. Ideally, all dentistry can and should be carried out in an aesthetic way, and as a result the term “cosmetic” could apply to nearly any type of treatment, even an extraction if executed with aesthetics in mind.

The way treatment planning is carried out for smile makeovers has fundamentally been the same for some time. Recently Digital Smile Design has taken another step and has made the very best and most intelligent use of software, imaging and video to creating a very powerful and emotional communication tool. This can allow a patient to see a smile makeover mockup not just on a screen as a static image but watching themselves on video and actually to trial it within their mouths also and deliver an emotional response to that preview.

Ideal smiles and fantastic results can be achieved this way and this is appropriate for patients who want perfection. Or is it?

The concept of progressive smile design is a little different.

The idea of PSD to allow the patient to see improvements in staged approaches to really decide if they want to see improvements in staged approaches to really decide if they want to see improvements will give the amount of space needed. The patient was to wear the appliance for 18-20 hours a day. The patient turned the midline screw 1/8 turn per day while the Inman Aligner was worn out of the mouth for 2 weeks. The patient was keen to see this before committing to understand the real potential outcome. The advantage of a 3d print over 2d images is that a patient can hold the models and really appreciate the potential outcome with a clearer picture of scale, position and shape. On viewing the models the patient was highly satisfied with the proposed outcome and could also see that the teeth still looked short and further treatment would be needed to lengthen them. This was discussed and planned. The models were returned to the lab for the modified Inman Aligner to be constructed.

One week later it was fitted. Instrucions were given and no space creation needed. The patient was to wear the appliance for 18-20 hours a day. The patient turned the midline screw once every 3 days. After 2 weeks a significant improve was seen.

At 4 weeks home bleaching was started using Daywhite 6% H2O2, (Philips) using super-sealed trays. (trays with sealing grooves cut into the stone models before sucking down). She whitened for 15 minutes a day while the Inman Aligner was out of the mouth for 2 weeks. At this appointment a little flattening of the contact was carried out to reduce the risk of a black triangle and lengthen the connector this was done using a softer disc using the digital models for guidance. Bucal anchors were also placed to help the laterals rotate in.

At 6 weeks the diastema was closed and the teeth were noticeably whiter. The patient turned the midline screw 1/8 turn per day while the Inman Aligner was worn out of the mouth for 2 weeks. The patient was keen to see this before committing to understand the real potential outcome. The advantage of a 3d print over 2d images is that a patient can hold the models and really appreciate the potential outcome with a clearer picture of scale, position and shape. On viewing the models the patient was highly satisfied with the proposed outcome and could also see that the teeth still looked short and further treatment would be needed to lengthen them. This was discussed and planned. The models were returned to the lab for the modified Inman Aligner to be constructed.

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and the patient was shown the new potential outline. Immediately the patient was thrilled and happy to just have no preparation composite bonding as the final part of the treatment rather than veneers.

The part of the process is vital as allowing a patient to see their teeth align and whiten often helps them to comprehend the best potential in their own natural smile before taking an irreversible route.

Two weeks later, an indirect wire retainer was bonded in place after roughening the teeth and using etch and optioned with Venus Diamond Flow.

On the same day, direct composite edge bonding was carried out. Venus Diamond (Heraeus Kulzer) OI shade dentine was placed initially to block out the visual join and B1 and B8 shade were used on the facial surfaces and blended into the surface of the teeth. The patient returned for her polishing appointment and the material was fully blended into the tooth. At this point the black triangle was closed also.

Lateral and anterior guidance was rechecked and adjusted and a new impression was taken for a night-time essix/backup retainer.

**Discussion**

This case was completed in less than 10 weeks. By allowing this patient to see small changes a little at a time, she was able to see the very best potential in her own smile and to make the decision to move to composite edges instead of just jumping straight into porcelain veneers. The long term biological and cost and economic cost also means that the risks are lower. There is certainly nothing wrong with placing porcelain veneers on a case like this, but one can see that following the logic of progressive smile design, you never really know what the patient wants unless they are able to see the very best in their own smile and they might be happy with a small amount of bleaching, alignment or bonding. Added to the fact that the long term risks of cases like this are lower, and this kind of treatment is more accessible to many more patients, and one can see the potential for many patients around the world.

**Disclosure**

Inman Aligner training run courses and mentoring through Intelligent Alignment Systems Orthodontic Academy. Visit: www.iasortho.com

Dr. Tif Qureshi, UK, Past President of the British Academy of Cosmetic Dentistry. Director of Intelligent Alignment Systems.