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BDS

Tif has a special interest in simple orthodontics and minimally invasive dentistry and pioneered the concept of Align, Bleach and Bond (ABB), and Progressive Smile Design. He is an experienced teacher of the Dahl concept, which assists with minimally invasive, patient-centred dentistry. Tif is a clinical director of IAS Academy and a past president of the British Academy of Cosmetic Dentistry. He graduated from King's College, London in 1992 and is a partner at Dental Elegance, Sidcup where he has worked for nearly 30 years.

ENHANCED CPD

GDC anticipated outcome: C

CPD hours: one

Topic: Interceptive dentistry

Educational aims and objectives:

To explore 'pausative' dentistry concept and the importance of adopting a lifetime approach. This article qualifies for one hour of enhanced CPD; answer the questions on page 110 or scan the QR code.



What does it mean to care for a patient over a lifetime? Are we, as dentists, treating a patient to make them happy and then saying goodbye, or should we provide that patient with a stable, functional outcome to last for many years?

By applying ortho-restorative principles to treat mild and moderate crowding cases, as well as improving appearance, we are potentially also carrying out interceptive functional treatment that can maintain a patient's long-term anterior guidance and a correct envelope of function.

The align, bleach and bond (ABB) approach provides the ability to reverse dental collapse and improve anterior guidance that, if left untreated, can lead to future problems. ABB is much more than aesthetic treatment. It is also functional and preventive and can change the way we approach all patients, not just cosmetic cases.

Being able to carry out Dahl build-ups is also important. When the Dahl technique is understood, it can be one of the most powerful tools in dentistry.

MONITOR, RETAIN OR TREAT?

I believe patients often agree to treatment when they do not really understand the functional advantages.

Would it be more helpful if patients who decided to have aesthetic and cosmetic dentistry really understood the functional and potential lifetime benefits of those treatments?

Developing a long-term relationship and communicating with patients keeps them informed about what could happen to their teeth over time.

Understanding the occlusal and functional effect of continued tooth movement enables the patient to make an informed decision about intervention. I believe that it is crucial we talk to patients, present

the facts and avoid rushing into treatment with veneers and crowns.

It is important to explain the slow minor positional, functional changes and educate the patient about what is happening in their mouths. I record the amount of dentine exposure and look very carefully at enamel chipping. I always explain that dentine is six to eight times softer than enamel and that it will stain more heavily.

Taking regular photographs of the patient is also important, even if no treatment is provided. Each time a patient presents, we can look at the images together to see the changes over time. I don't think dentists are taught or conditioned to take photographs often enough.

I will also undertake a regular fremitus check, demonstrating the pressure of fremitus and helping the patient understand what it means to have a constricted envelope of function.

The key issue is that we explain that the change is gradual and progressive; we observe, we do not panic. We offer to monitor, retain or, of course,

Developing a long-term relationship and communicating with patients keeps them informed about what could happen to their teeth over time

Tif Qureshi explains his 'pausative' dentistry concept and the importance of adopting a lifetime approach

Aesthetic, functional and affordable dentistry

treat. Patients gain an appreciation that, over time, teeth keep moving, become more crowded, collide and discolour.

The following case highlights the treatment of a patient over 17 years. With simple orthodontics, direct edge-bonding applied with the Dahl principle and a little maintenance, her teeth were prevented from becoming worse at a relatively low cost.

CASE PRESENTATION

A 48-year-old female came to see me in 2004. The patient initially presented because she was unhappy with her two discoloured upper central incisors (Figure 1).

She also had chipping and wear to the lower teeth and broken posterior bridgework. In addition, her bite felt uncomfortable (Figure 2).

On examination, she had reduced anterior guidance causing posterior interferences and heavy contacts behind the upper central teeth. The patient was keen to change the crown and

veneer on the upper centrals. She also wanted to treat the wear on her lower teeth and the crowding (Figure 3).

TREATMENT OPTIONS

Options discussed with the patient were comprehensive orthodontics versus a compromised plan. We also considered multiple upper and lower ceramic units versus alignment, bonding and replacing the two centrals (Figures 4 and 5).

Due to financial constraints and concern about the amount of tooth preparation needed, the patient chose simple anterior alignment with removable appliances. She opted for the Inman Aligner for alignment of the lower 3-3 teeth. Interproximal reduction (IPR) was carried out progressively over eight weeks.

Once her lower teeth were aligned, an indirect wire retainer was bonded into place. This was followed with direct edge-bonding on the lower teeth with the Dahl principle (Dahl and Krogstad,

1982), with primary contacts on the canines and light contacts on the incisors (Figure 6).

The occlusion was reviewed and readjusted about one month later to ensure any maximum intercuspation (MIP) and centric relation (CR) slide had been accounted for. The anterior contacts were readjusted and balanced at this point.

The two upper central units were replaced with a new ceramic crown and a veneer (Figures 7 and 8). The patient's bite settled over a two- to three-month period. The result was not perfect, but we were working within a limited budget. After about six years, the posterior bridge units in the lower arch were replaced at the patient's own speed.

COST-EFFECTIVE AND ATTAINABLE TREATMENT

Figure 9 shows the patient 13 years later in 2017 when the lower teeth are starting to wear. The upper central incisor units are still in place but the lower right central is almost completely worn (Figure 10). The patient didn't want to replace



FIGURE 1: 2004 – the patient was unhappy with the discoloured upper central incisors



FIGURE 2: 2004 – the patient's bite felt uncomfortable



FIGURE 3: 2004 – she also wanted to treat the wear on the lower teeth and the crowding



FIGURES 4 and 5: 2004 – multiple upper and lower ceramic units versus alignment, bonding and replacing the central incisors was discussed



FIGURE 6: 2004 – after alignment of the lower 3-3 teeth, direct edge-bonding with the Dahl principle was carried out



FIGURES 7 and 8: 2004 – the two upper central units were replaced with a new ceramic crown and a veneer



FIGURE 9: 2017 – after 13 years the lower teeth are starting to wear



FIGURE 10: 2017 – the upper central incisor units are still in place but the lower right central is almost completely worn



FIGURES 11 and 12: 2017 – palatal platforms were placed on the upper canines using Kulzer Venus Diamond in Opaque Medium (OM) shade



FIGURE 13: 2021 – the patient decided to have the two upper central units replaced with a lithium disilicate crown/veneer

all the lower composite at this stage as she was more concerned about improving the appearance of the upper central teeth, one of which had developed a hairline fracture.

Budget was still an issue, so for the time being we agreed to re-Dahl the teeth. However, this time palatal platforms were placed on the upper canines. This was completed using Kulzer Venus Diamond nanohybrid composite in Opaque

Medium (OM) shade (Figures 11 and 12). The palatal platforms were placed freehand and a simple flat surface was created that reproduces similar but more basic anatomy than a natural cingulum.

By placing a flat platform we could ensure correct axial loading. The contacts were balanced and checked with articulating paper. These platforms then provided enough room to clean

Venus® Pearl

"...delivers consistently superior results..."

“ The material chosen for the edge bonding was Kulzer Venus Pearl B1 shade. Venus Pearl delivers consistently superior results, particularly when building up incisal edges where strength is important.

It is easy to handle – not too fluid and not too viscous – and does not slump. The composite also polishes to a very high lustre to achieve an outstanding aesthetic effect.

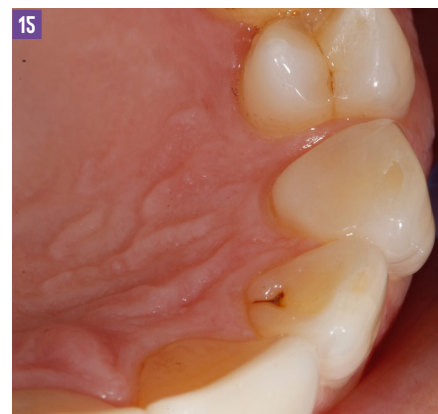
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FIGURES 14 and 15: 2021 – the upper palatal platforms created with Venus Diamond are still working and the repaired lower central incisal edge is still in position



FIGURE 16: 2021 – alignment and direct edge-bonding with the Dahl principle can help to minimise the amount of damage in long-term cases

and rebuild the incisal edge of the lower right central without having to remove any of the other original composite placed in 2004. Venus Diamond Opaque Light (OL) and B1 shades were used to build up the lower tooth. A base shade of OL was placed and B1 applied over the top.

I like the strength offered by Venus Diamond. I have been using the material for more than 12 years and it has proved to be very fracture resistant. The composite offers easy handling, is predictable and adapts perfectly to the colour of the teeth.

At this stage, if the patient's teeth had not been treated in 2004 there would have been further heavy wear on the dentine, probably one or two millimetres more tooth surface loss at a minimum, and increased crowding. A constricting envelope of function potentially would have caused one of the upper teeth to either break or push forward.

STRONG, DURABLE RESTORATIONS

In 2021, the patient decided to have the two upper central units replaced with a lithium disilicate crown/veneer (Figure 13). The upper

palatal platforms created with Venus Diamond in 2017 are still working and the repaired lower central incisal edge is still in position (Figures 14 and 15).

The original edge-bonding on the other lower teeth remains in place 17 years later.

To enhance the lower canines and incisors, the teeth were polished with the simple-to-use and predictable Kulzer Venus Supra polishing kit. However, it is likely that in the next two to three years they will all be replaced with Venus Diamond composite.

INTERCEPTIVE DENTISTRY

This case effectively demonstrates that the concept of 'pausative' dentistry can be aesthetic, functional and affordable. If this patient's teeth were left untreated from 2004, how would they look 17 years later?

The lower crowding would likely get worse (Little, 1999). The bite would probably deepen, causing more surface loss, as there were already signs of dentine exposure. The already reduced posterior guidance would likely worsen and more posterior teeth could fail.

The 'pausative' approach with alignment and direct edge-bonding with the Dahl principle can help to minimise the amount of damage in long-term cases (Figure 16). It can help prevent further tooth surface loss and tooth positional changes, and hold the occlusion in a much better position over time.


For me, the interceptive concept is where dentistry really should be heading. Perhaps we should all be thinking more about intercepting and preventing obvious issues becoming predictable problems later on. Within this approach, the goal could really be total lifetime care. 

ABB COURSE

The Dahl principle and the treatment of tooth wear is taught on Tif Qureshi's IAS Academy Align, Bleach and Bond (ABB) course held at IAS Academy, Weybridge. Next available dates: 23-24 September and 9-10 December 2022.

REFERENCES

- Dahl BL, Krogstad O (1982) The effect of a partial bite raising splint on the occlusal face height. An x-ray cephalometric study in human adults. *Acta Odontol Scand* 40(1): 17-24
- Little RM (1999) Stability and relapse of mandibular anterior alignment: University of Washington studies. *Semin Orthod* 5(3): 191-204

PRODUCTS USED

Venus Diamond, Venus Supra
Kulzer