

Full arch implant care: the evolution continues (Part 1)



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Patient rehabilitation with endosseous implant supported bridges has come a long way since the early days with P I Brannemark. His original finding that titanium bonds with bone has led to a global treatment method which has changed the lives of millions of people.

The initial implant protocol was restricted to the anterior mandible and required staged treatment that often took a year or more to complete. Patients needed to be edentulous and well healed prior to the surgical phase. Implants were then placed and allowed to heal fully submerged and protected from the oral environment. Once 6 to 12 months had passed only then were implants exposed and a prosthesis could be constructed. As such patient endured treatment times which spanned more than 12 months along with multiple surgical procedures.

This changed significantly with the acknowledgement that dental implants did not need to be fully submerged to achieve osseointegration. A transmucosal implant was scientifically proven to offer similar rates of osseointegration as the traditional method without the requirement for second stage surgery and within a shorter time frame.

Further improvement and disruption occurred when it was shown that immediate extraction and immediate loading of dental implants was a viable treatment protocol. This change heralded a new era of reduced treatment time for patients. It was, however, combined with more aggressive treatment protocols including significant alveolar ridge reduction which was not universally accepted as being in the patient's best interest. There was, and continues to be, a significant need for local dental laboratory support to construct the prosthesis within the short time frames that patient have come to expect which has limited the deployment of the technique to more regional and underserved areas.

A few different treatment protocols

have come and gone which have attempted to provide teeth in very short periods of time but still haven't managed to establish themselves as accepted techniques due to reasons such as lack of clinical flexibility and or a less than durable prosthetic outcome.

Currently the challenge is to meet what are competing demands from patients and clinicians by simultaneously achieving the following:

- ◆ Allow a patient to always having teeth and avoid the embarrassment of edentulism
- ◆ Reduce the number of visits with active treatment to a bare minimum
- ◆ Insert durable teeth at the initial surgical visit that can be modified as necessary
- ◆ Be a flexible treatment method that can adapt to all clinical situations
- ◆ Provide a customised outcome to suit a patient rather than making the patient fit the treatment

- ◆ Provide predictable treatment outcomes based on comprehensive planning
- ◆ Remove the need for local laboratory support by pre-fabricating all the parts required.

Where existing techniques have shortcomings, the Aurora Implant Bridge treatment protocol aims to meet needs to better serve the patient group.

Patient 1

The patient presented with a desire to replace her ill-fitting upper partial denture and loose remaining upper teeth with "teeth" that were fixed in place. Many of her friends had been through the All on Four process with various dentists but she had reservations as she did not wish to spend any time without "teeth" in her mouth. She was also very concerned about multiple visits to complete dental treatment which had led to sporadic attendance to her own dentist.



Figure 1 Pre-treatment OPG



Figure 2 Pre-treatment smile

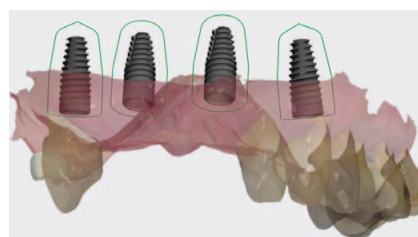


Figure 3 Implant planning



Figure 4 Pre-made bridge



Figure 5 Bridge insertion



Figure 6 Final torque



Figure 7 Week 2 smile

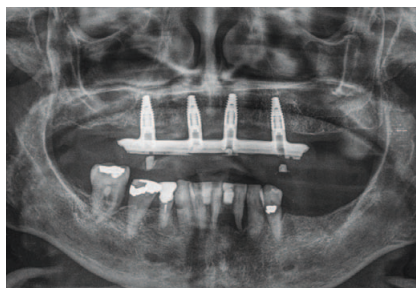


Figure 8 OPG 3 month



Figure 9 Happy patient (Permission rec)

The Aurora Implant Bridge was explained to her as an opportunity to address her concerns by firstly performing all treatment under a general anaesthetic. The treatment would involve removal of the remaining upper teeth, placement of 4 dental implants with a patented fully guided surgical technique before placing the definitive “teeth”. The teeth would be constructed on a milled titanium bar with an acrylic supra-structure. Such a prosthesis does not have the strength limitations of just milled PMMA connected to titanium cylinders and would not require any additional post-surgery visits to fit the bridge. All post-surgical visits were for observation/review and the eventual torque test after 3 months.

Consent was obtained, and planning was performed over the course of 2 visits to acquire the necessary digital data and plan the appropriate locations for the dental implants. The Aurora implant Bridge was made prior to the surgery and quality control procedures completed to ensure all the components would work as intended.

As informed the patient underwent a general anaesthetic during which the

remaining teeth were removed, the bony peaks smoothed, implants were placed and finally the prosthesis were inserted and screws torqued. The entire procedure took 90 minutes.

The patient was followed at regular intervals (2 weeks, 1 month) during the healing process and after 3 months the bridge was removed to allow torque testing of the dental implants. All implant integrated well as expected and small modifications were made to the intaglio surface of the bridge to reduce several areas of tissue pressure and improve access for cleaning. Overall the patient was very pleased with the experience as she felt minimal discomfort during the healing period, received the aesthetically pleasing teeth, no longer had to remove her teeth and lastly did not experience any time without teeth.

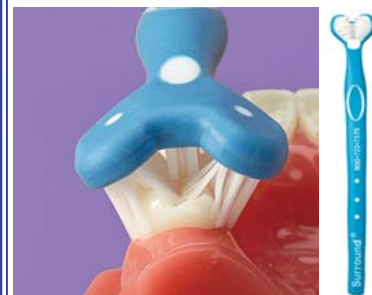
Part 2 will continue with additional treatment discussion showing cases with varying clinical presentations ♦

For details on Dr Philip Tan's upcoming lecture events contact Rebecca: rebecca@specialistsmiles.com.au or 0432 144 534

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