

Clinical Realities

Summer 2007

IMPLANT NEWSLETTER FOR CLINICIANS

From the treatment records of Paul P. Binon DDS, MSD



In past newsletters I illustrated some treatment options for the edentulous maxilla. The standard was sinus augmentation and 6 to 8 implants and a cast rail and over-denture. To-

day, the number of treatment options has increased as well as the restorative techniques. In the last newsletter two different cases were documented where there was virtually no bone and yet a fixed upper prosthesis was completed immediately without any significant grafting or extended healing period. The treatment time has exponentially decreased as we learn more and more as to the critical requirements of osseointegration and loading parameters. There are edentulous patients that do not want a removable maxillary prosthesis. There are patients that do not want multiple surgeries. There are patients that want instant gratification and esthetic nirvana. It is even possible to have flapless surgery and computer assisted surgical placement today. Teeth in a day, teeth in an hour are realities that even tax the ability of a technologically savvy tooth fairy.

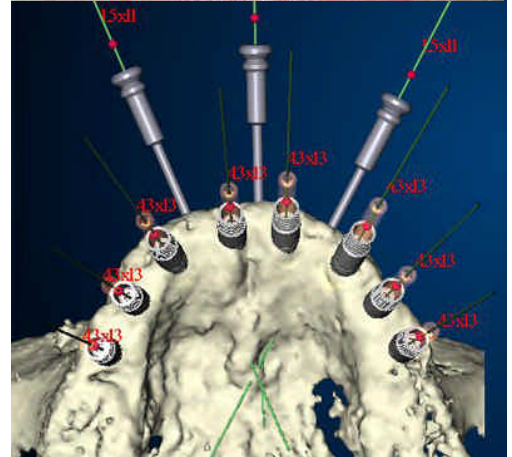
There are always unique and specific anatomic criteria necessary to implement these different treatment options. The case of the month illustrates some of these aspects. In this case, there was minimal atrophy of the ridge because implant treatment was initiated shortly after the failing dentition was extracted. Computer generated treatment planning and surgery was utilized for ideal placement. This patient was restored with a maxillary BAB with an anterior flange, due to lip rise and required lip support. **We live in an age where implant enhanced treatment and problem solving is limited only by the vision, the knowledge and the skill of the clinician. It just keeps on getting better.**

CASES OF THE MONTH

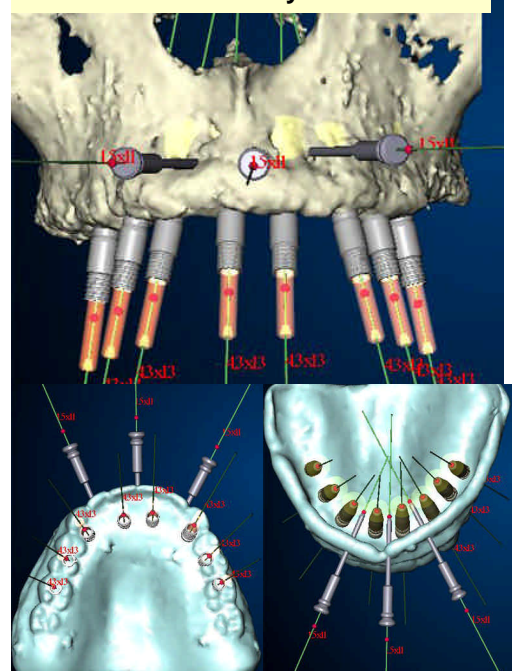
A Caucasian female presented for treatment with specific treatment requirements and goals. Multiple missing teeth, periodontal involvement, esthetic issues, a hyperactive gag reflex, functional limitations, splaying of the anterior teeth and pain were considerations in the treatment plan. Patient was insistent on a fixed restoration with no palatal coverage. Conventional treatment options were discussed along with implant treatment options and her choice was a fixed maxillary supported hybrid denture (BAB). An immediate upper den-



ture was constructed and the remaining upper teeth were extracted and the sockets were grafted. Healing was uneventful and in due time a final impression was taken of the upper arch. A definitive upper denture was constructed and inserted. Patient was then referred for a double CT scan and the case was treatment planned using Procera Software (Nobel Biocare). During the interim period, the lower arch was brought to optimal health and restored with 2 implants in each posterior segment. An implant treatment plan was developed and finalized between the prosthodontist and the surgeon



3D anatomical scan with locations of the implants—Size and axial orientation can be totally controlled.

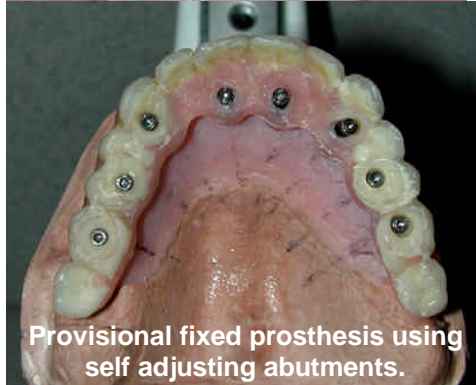


Denture scan with implants in place

In order to take the CT scan, the definitive denture is modified with index markers and a bite index is taken. Following confirmation of the implant location, a software file is sent to Nobel for the manufacture of a surgical template and duplicate clear denture. The template is checked clinically for fit and occlusal relationship and the surgery is scheduled. In the interim special inserts are placed in the template to orient the implant analogs. Gingitech is placed around the implant analogs, undercuts are lightly blocked out, the template periphery is boxed out with wax and poured in stone. The resulting cast is mounted and used to construct a provisional fixed prosthesis.

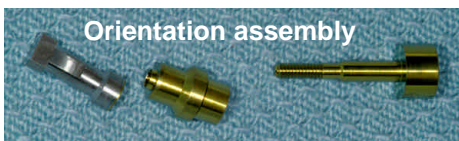
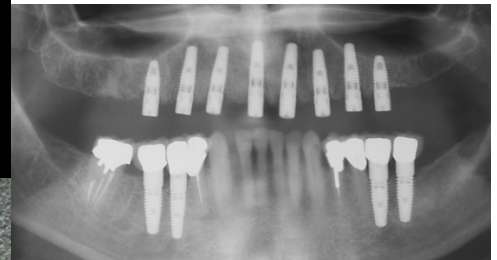


Poured working cast



Provisional fixed prosthesis using self adjusting abutments.

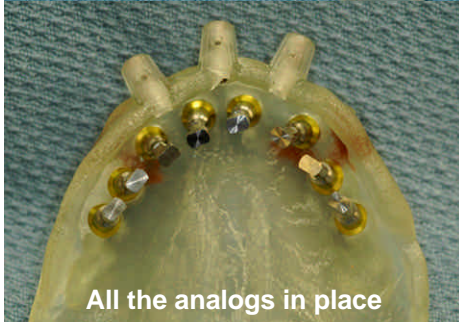
provisional restoration is placed and the occlusion is checked. In this case the anterior two implants were at an angle that made insertion impossible. Healing abutments were placed on the anterior two implants and the provisional was modified. The prosthesis was then secured in the mouth. There is a significant learning curve associated with the software and the treatment protocol. The overall sequence is quite predictable and the surgical sequence is extremely easy. Following 5 months of integration, the prosthesis was removed and a definitive impression was made.



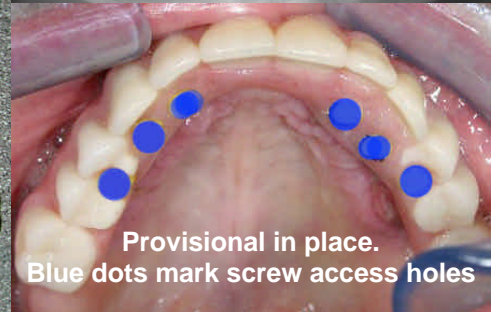
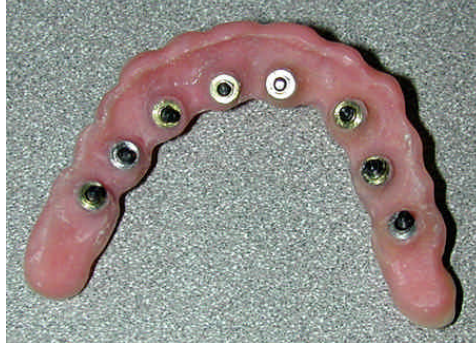
Orientation assembly



Surgical template with 4 analog orientation pins in place



All the analogs in place



Provisional in place. Blue dots mark screw access holes



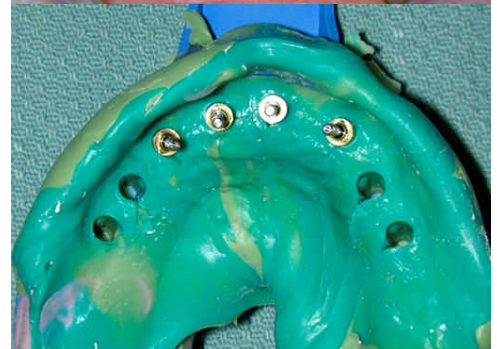
Anterior pick up and posterior transfer copings in place for definitive impression



Gingitech™

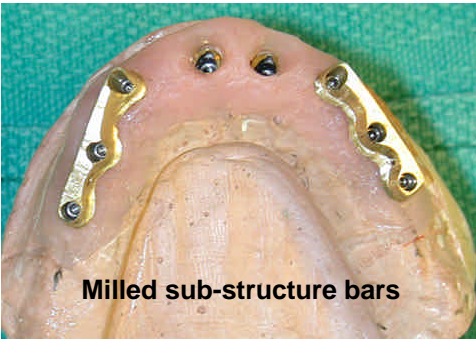
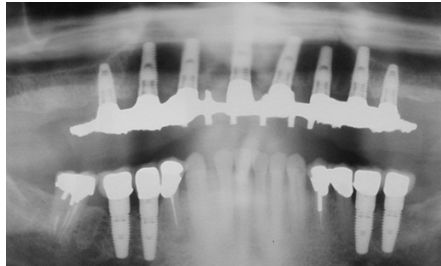


Once the provisional restoration is complete the surgical template is placed in the patients mouth and three reference pins are inserted buccally to fixate the template in place. The surgeon then uses progressive sleeve sizes to reach the desired diameter and length for each implant to be inserted. There is a specific sequence to the implant placement so that there is minimal movement to the surgical template during insertion. This is a flapless surgery and the placement of 8 implants took less than 1 and a half hours. Following insertion, the

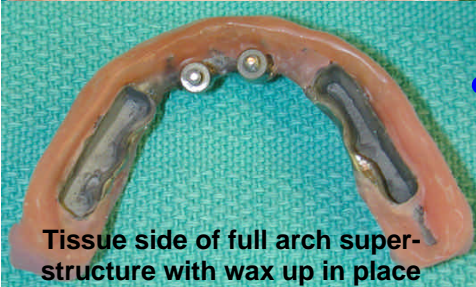


DIAGNOSIS IS THE KEY

A working cast was poured and the final BAB design was determined. I made two milled cast gold bars and went direct to the implant with the superstructure. The prosthesis is retained with 2 anterior abutment screws and two posterior set screws. The sub-structure and superstructure were tried in the mouth followed by a wax try in. On patient approval, the BAB was processed and inserted.



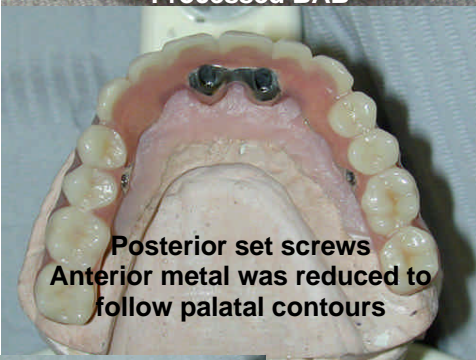
Milled sub-structure bars



Tissue side of full arch superstructure with wax up in place



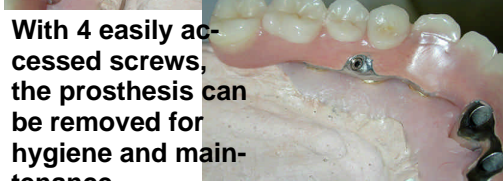
Processed BAB



Posterior set screws
Anterior metal was reduced to follow palatal contours



Posterior set screws were angled facially for easy access.



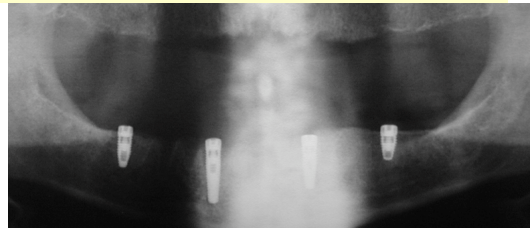
With 4 easily accessed screws, the prosthesis can be removed for hygiene and maintenance.



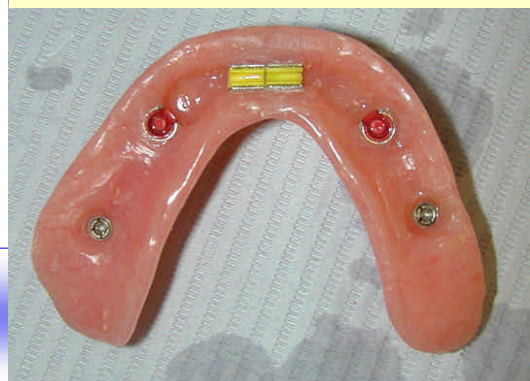
Completed treatment. Surgical treatment by Dr. David Salmassy, OMS in Auburn CA.

OPTIMAL STABILITY AND FUNCTION MINIMAL NUMBER OF IMPLANTS

A number of different treatment options are available to solve lower denture instability. The fixed implant supported PFM or BAB is the ideal option. It requires 5 to 8 implants to achieve that level of treatment. If that is not possible, the next best option is an overdenture supported by 4 implants. Advantage: less expense, easy hygiene for patients with compromised hand ability and no denture movement during function. Anterior and posterior bone height is necessary for the placement of the implants and the posterior implants have to be placed perpendicular to the ridge with no axial deviation. An example of that treatment option illustrates the anterior Hader bar with two clip segments, two reduced VD ERA attachments and two posterior ball attachments. Retention and stability was excellent. Patient's goals were achieved and the expenses were controlled within his means. This is an elegant solution to a major problem.



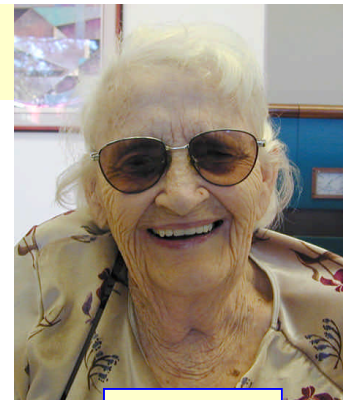
SURGERY AND PROSTHETIC COMPLETED IN OUR OFFICE



CORE SKILL OF THE
PROSTHODONTIST IS
DIAGNOSIS

DONATED DENTAL SERVICES

I am always intrigued by the flying dentists and flying physicians going hither and yon to treat hardship cases in Mexico, Central America or South America. I support that effort as there is much suffering in our world and that is one way of helping the less fortunate. However you don't have to go out of our country to help those in need. There are many less fortunate fellow human beings here in our own backyard that need your help. Well, there are suppose to be social programs that deal with providing services to the needy but you and I both know that many people fall through the cracks. The dental society has several programs that are aimed at children which is very commendable and necessary. I support these but feel the needs of the elderly, the emotionally and physically handicapped are sometime neglected. Donated Dental Services is a program that deals with those that are often in a limbo zone that need help. There is no cost to the recipient and you don't have to deal with the bureaucratic quagmire that exist with Dentical. Over the years I have had the privilege of helping a wide range of patients. Typically our office takes two or three cases a year and it has been a most satisfying situation. They have ranged from crowns and bridges, extensive reconstructions, implant assisted retention for lower dentures, fillings and most frequently new denture or relines. **DDS is a network of care providers that crosses all lines of general and specialty services and has wonderful support from the laboratory industry.** Please consider becoming a part of this very worth while effort. It's so very simple to become involved. All it takes is a phone call to DDS to let them know that you want to help. The patients are screened by the DDS office as to verification of need, income and health status. Why not go on line today and check it out.



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