ABOI/ID Part II Case Presentation
– Template
Patient #4

2013
Type of Case:

Case 4: Anterior maxilla with implant support that includes one or more root form implant with a minimum diameter of 3.0 mm.
Implant Surgery

- Date of Initial implant surgery:  
  3/8/2010

- Number of implants placed and where:  
  2 implants in position of # 8 and # 9

- Did this case require pre-implant placement grafting of any kind?  
  Yes, pre-implant placement anterior maxilla ridge augmentation (7/16/2009)
Date of final prosthesis insertion:

1/20/2011

Type of restoration:

Implant Fixed Partial Denture - Cemented Prosthesis

Opposing dentition:

Natural dentition

Current status:

Satisfactory function
**Patient Medical History**

- ASA Classification: ASA I
- Patient’s mental status: Philosophical
- Relevant past/and current medical history:
  
  Car accident and facial trauma 8 years ago (patient was 17.5yr). Anterior maxillary avulsed incisors #7,8,9,10, followed by replantation (longer than 2 hours extra-alveolar time), splinting and subsequent root canal treatment.
- Medications: none
- Allergies: none
Dental History

- Missing teeth: 3rd molars

- Periodontal status: AAP Classification: Class I
  
  Generalized PPD 2-3 mm; Localized attachment loss; Recession: ~1 mm on # 3, 12, 14; Plaque levels: Low; Bleeding on probing: 10%; Class III mobility: # 8, 9.

- Occlusion/ Angle Classification:

  Canine Relationship: Right Side Class I, Left Side Class II

  Molar Relationship: Right Side Class I, Left Side Class II
Pre-Surgical X-Ray: Panoramic 2009
Pre-Surgical X-Ray: 2009
Pre-Surgical X-Ray: CBCT crossections # 7,8,9,10
Social History

- Smoking: rare, once a week one cigarette
- Alcohol: 3-4 beers a month
- Drug/substance abuse: none
Treatment Planning

- Surgical Plan:
  - STEP 1: Extractions and ridge augmentation (7/16/2009)
  - STEP 3: Uncovery and adjunctive procedures (8/16/2010)
Prosthetic Plan

Prosthetic plan:

- Data collection, radiographic examination, CBCT
- Endodontic Consultation
- Orthodontic Consultation, TMD Examination
- Diagnostic wax pattern
- Provisional restorations
- Final prosthesis (1/20/2011)
I understand that implant success is dependent upon a number of variables including, but not limited to: operator experience, individual patient tolerance and health, anatomical variations, patient home care of the implant, and the implant material and design. I also understand that implants are available in a variety of designs and materials and the choice of implant is determined in the professional judgment of my dentist.

I have further been informed of the possible risks and complications of implant surgery, anesthesia, and the proposed drugs, including but not limited to: failure of the implant(s), inflammation, swelling, infection, discoloration, numbness (exact extent and duration unknown), inflammation of blood vessels, injury to existing teeth, bone fractures, sinus penetration, delayed healing or allergic reaction to the drugs or medications used. No one has made any promises or given me any guarantee about the outcome of this treatment or these procedures. I understand that these complications can occur even if all dental procedures are done properly.

I have been advised that smoking, alcohol or excessive sugar consumption may affect healing and may limit the success of the implant. Because there is no way to accurately predict the gum and bone healing capabilities of each patient, I know I must follow my dentist's home care instructions and report to my dentist for regular examinations as instructed.

I have also been advised that there is a risk that the implant or associated metal parts may break, which may require additional procedures.

I authorize [Doctor] to perform dental services for me, including implants and other related surgery. I agree to the type of anesthesia that he/she has discussed with me, specifically local, IV sedation or general. I agree not to operate a motor vehicle or hazardous device for at least twenty-four (24) hours or more until fully recovered from the effects of the anesthesia or drugs given for my care.

I understand that my surgical procedure will be done under [Local] anesthesia.
If an unforeseen condition arises in the course of treatment which calls for the performance of procedures in addition to or different from that now contemplated and I am under general anesthesia or IV sedation, I further authorize and direct or assistants of their choice, to do whatever they deem necessary and advisable under the circumstances, including the decision not to proceed with the implant procedure, and I accept the additional cost of the procedure.

[Initial]

I approve any modifications in designs, materials, or care, if my dentist, in his/her professional judgment, decides it is in my best interest to do so.

To my knowledge, I have given a sufficient report of my health history. I have also reported any prior allergic or unusual reactions to drugs, food, insect bites, anesthetics, pollens, dust, blood or bodily diseases, gum or skin reactions, abnormal bleeding or any other condition relating to my health or any problems experienced with any prior medical, dental or other health care and treatment.

I authorize my dentist to make photos, slides, x-rays or any other visual aids of my treatment to be used for the advancement of implant dentistry in any manner my dentist deems appropriate. However, no photographs or other records which identify me will be used without my written consent.

I realize and understand that the purpose of this document is to evidence the fact that I am knowingly consenting to the implant procedures recommended by my dentist and that I understand the risks inherent in so doing.

I AGREE THAT IF I DO NOT FOLLOW MY DENTIST'S RECOMMENDATIONS AND ADVICE FOR POST-OPERATIVE CARE, MY DENTIST MAY TERMINATE THE DENTIST-PATIENT RELATIONSHIP, REQUIRING ME TO SEEK TREATMENT FROM ANOTHER DENTIST. I REALIZE THAT ONGOING POST-OPERATIVE CARE AND MAINTENANCE TREATMENT IS CRITICAL FOR THE ULTIMATE SUCCESS OF MY DENTAL IMPLANTS.

Questions I have to ask my dentist:

________________________________________________________________________
________________________________________________________________________

I understand that the proposed treatment for my dental problem will involve the following surgical procedure:

Upper: [Procedure]

Lower: [Procedure]

The expected outcome of treatment (prognosis) is:

Upper: [Outcome]

Lower: [Outcome]

I understand that my dental problem can be alternatively treated by:

[Alternative Treatment]

I understand that the recommended treatment has the following advantages over the above alternative(s):

[Advantages]

I have read this booklet and I FULLY UNDERSTAND THE ABOVE AUTHORIZATION AND INFORMED CONSENT TO IMPLANT PLACEMENT AND SURGERY AND THAT ALL OF MY QUESTIONS, IF ANY, HAVE BEEN FULLY ANSWERED. I HAVE HAD THE OPPORTUNITY TO REVIEW THIS FORM BEFORE SIGNING IT.

Signature of Patient or Guardian

Dated

Witness

Dated

Witness

Dated
Alternative treatment plans discussed with patient

- Alternative treatments discussed:
  
  I. Fixed Implant Restoration
  
  II. Fixed Partial Denture
  
  III. Removable Partial Denture
Operative report: Aug 18\textsuperscript{th} 2009

Pre-operative Diagnosis:

Inflammatory external root resorption and ankylosis as replacement resorption for teeth #7,8,9. Tooth #10 is ankylosed, shows stable condition and diagnosed with fair endodontic prognosis. Multiple corono-radicular fractures of teeth #8, 9.

Surgical procedure:

Extractions and anterior maxillary ridge augmentation

( prophylaxis was performed 2 weeks prior surgery)
Bone Graft Surgery

- Extractions and anterior maxilla ridge augmentation:

- 7/16/2009


- Patient was asked to rinse with Peridex (oral rinse containing 0.12% chlorhexidine gluconate) for 3 min and his face was swabbed with betadine solution. Patient was fully draped for surgery and local anesthetic 4 carpules Lido 2% 1/100000 epinephrine was administrated by infiltration buccal and palatal in the maxillary anterior sextant. An intrasulcular incision was done with 15c blade around teeth # 7,8,9,10 and vertical releasing incisions made distal to each lateral incisor. Fractured crowns #8,9 were removed. Full thickness mucoperiosteal flap was reflected.
Pre-operative clinical view
Pre-operative clinical view
Bone Graft Surgery
Bone Graft Surgery
Upon inspection of area of #7,8,9 the following were noted: dehiscence and bony fenestrations, ankylosed and loose root fragments, granulation tissue and brown –black discoloration from bacterial by-products due to external root resorption process.

Removal of all root fragments and granulation tissue was done by curettage and rotary instrumentation. Radiographic confirmation of root fragments removal was done. Root resection was decided for tooth #7 leaving only 3 mm of retain root that was sealed with MTA.

Decontamination was done using tetracycline powder mixed with saline on cotton yarns for 30 sec and then rinsed abundantly with saline water. More curettage of the granulation tissue was carried out where needed. Decortications of the underline bone were made with a small bur.
Intra-operative radiographs
Bone Graft Surgery
Bone Graft Surgery cont…

- With the use of a bone scraper autogenous bone shavings were harvested from the anterior nasal spine and were mixed with hydrated allograft Puros small particles (Zimmer dental) and xenograft Bio-Oss® (Geistlich) small particles. The bone mixture was applied in side and outside of the buccal plate. Two Bio-Gide® (Geistlich) collagen membranes 25 x 25mm were layer over the grafted area. A total of five buccal and palatal titanium tacks were use to fixate and stabilize the membrane. To enhance soft tissue healing GEM 21S® (Osteohealth ®) was used.

- Periosteal releasing incisions done by blunt dissection with scissors. Tension free primary closure was obtained using vertical and horizontal mattress suture and interrupted sutures. Gore-Tex 5.0 and chromic gut suture 5.0 were used. End BP: 135/80. pulse 69, O2 saturation 99%. 
Bone Graft Surgery
Bone Graft Surgery
Bone Graft Surgery

- PO instructions reviewed with patient in oral and written form. Patient tolerated the procedure well.
- Periapical radiographs taken.
+ Post Surgical radiographs:
Post-Operative Care

- What were your post-operative instructions for this patient?

- Patient was instructed to continue gentle rinsing with Peridex for the following 2 weeks. Also gentle rinsing with lukewarm salt water will aid the healing process (add one half teaspoon of salt to a 6oz glass of water). Avoid the use of a water-pick tooth brush. Vigorous rinsing of the mouth prolongs bleeding by removing the clotting blood, so when rinsing your mouth, do it gently. No drinking through straws. The use of a straw creates negative pressure in the mouth and will tend to loosen the sutures. Patient was given a soft brush to use.

- Patient was advice to continue taking Amoxicillin TID until done 21 capsules. Motrin 800mg was prescribed for pain as needed. Smoking is to be avoided for the time of healing (increases the heat in the surgical site and significantly lowers the body’s ability to heal the site). Avoid alcohol with post operative medications.
Post-Operative Care

- Patient was instructed to apply the ice pack that has been given for a period of 20 minutes on and 20 minutes off during the day for the next two days. The application of ice to the outside of the face over the surgical area will minimize swelling.

- Patient was told following surgery to restrict diet to liquid diet foods for the first 2 weeks and soft diet for the following 2 months. Also avoid chewing on the surgical site until the tissue is completely healed. It is better to remove the Essix retainer when having meals. Soft foods such as Jell-O, pudding, mashed potatoes, scrambled eggs and soups are suggested. If having difficulty chewing, try blenderized foods or diet supplements such as Carnation Instant Breakfast and Ensure.
Maintenance

- What is your maintenance protocol?

  - 24 hour phone call; 2 weeks suture removal. Follow the diet instructions for the first 2 months. Hygiene procedures by brushing, flossing, and rinsing as usual. Provisional appliance given.

- List this patients maintenance history:

  - 24 hour phone call; 2 weeks suture removal. Follow the diet instructions for the first 2 months. Hygiene procedures by brushing, flossing, and rinsing as usual.

  - An Essix retainer free of tissue contact was fabricated and renewed when needed.
Suture removal at 2 weeks postoperative check
+ Suture removal at 2 weeks postoperative check
Suture removal at 2 weeks
Essix retainer as provisional
8 months follow-up after grafting: Clinical view
8 months follow-up after grafting: Clinical view
8 months follow-up after grafting: CBCT cross-sections
Informed Consent (insert)

CONSENT FORM FOR IMPLANT TREATMENT

Treatment Information for: Maela Cattano
I have requested treatment because missing implants in anterior area

My doctor has explained the various types of implants used in dentistry and I have been informed of the alternatives to implant surgery for replacement of my missing teeth. I have also been informed of the foreseeable risks of those alternatives. I understand what procedures are necessary to accomplish the placement of the implant(s) under the gum and/or the bone.

I have further been informed that if no treatment is elected to replace the missing teeth or existing dentures, the non-treatment risks include, but are not limited to:

(A) maintenance of the existing full or partial denture(s) with relines or remakes every 3 to 5 years, or as otherwise may be necessary due to slow, but likely, progressive deterioration of the underlying denture-supporting jaw bone;
(B) any present discomfort or chewing inefficiency with the existing partial or full denture may persist or worsen in time;
(C) drifting, tilting and/or extrusion of remaining teeth;
(D) looseness of teeth, periodontal disease (gum and bone), possibly followed by extraction(s);
(E) a potential jaw joint problem (TMD) caused by a deficient, collapsed or otherwise improper occlusion (bite).

I am aware that the practice of dentistry and dental surgery is not an exact science and I ACKNOWLEDGE THAT NO GUARANTEES have been made to me concerning the success of my implant surgery, the associated treatment and procedures, or the post surgical dental procedures. I am further aware that there is a risk that the implant surgery may fail, which might require further corrective surgery associated with the removal. Such a failure and remedial procedures could also involve additional fees being assessed.

I understand that implant success is dependent upon a number of variables including, but not limited to: operator experience, individual patient tolerance and health, anatomical variations, patient home care of the implant, and the implant material and design. I also understand that implants are available in a variety of designs and materials and the choice of implant is determined in the professional judgment of my dentist.

I have further been informed of the possible risks and complications of implant surgery, anesthesia, and the proposed drugs, including but not limited to: failure of the implant(s), inflammation, swelling, infection, discoloration, numbness (exact extent and duration unknown), inflammation of blood vessels, injury to existing teeth, bone fractures, sinus penetration, delayed healing or allergic reaction to the drugs or medications used. No one has made any promises or given me any guarantee about the outcome of this treatment or these procedures. I understand that these complications can occur even if all dental procedures are done properly.

I have been advised that smoking, alcohol or excessive sugar consumption may affect healing and may limit the success of the implant. Because there is no way to accurately predict the gum and the bone healing capabilities of each patient, I know I must follow my dentist’s home care instructions and report to my dentist for regular examinations as instructed.

I have also been advised that there is a risk that the implant or associated metal parts may break, which may require additional procedures.

I authorize perform dental services for me, including implants and other related surgery. I agree to the type of anesthesia that he/she has discussed with me, specifically local, IV sedation or general. I agree not to operate a motor vehicle or hazardous device for at least twenty-four (24) hours or more until fully recovered from the effects of the anesthesia or drugs given for my care.

I understand that my surgical procedure will be done under anesthesia.
If an unforeseen condition arises in the course of treatment which calls for the performance of procedures in addition to or different from that now contemplated and I am under general anesthesia or IV sedation, I further authorize and direct or assistants of their choice, to do whatever they deem necessary and advisable under the circumstances, including the decision not to proceed with the implant procedure, and I accept the additional cost of the procedure.

Initial

I approve any modifications in designs, materials, or care, if my dentist, in his/her professional judgment, decides it is in my best interest to do so.

To my knowledge, I have given an accurate report of my health history. I have also reported any prior allergic or unusual reactions to drugs, food, insect bites, anesthetics, pollen, dust, blood or bodily diseases, gum or skin reactions, abnormal bleeding or any other condition relating to my health or any problems experienced with any prior medical, dental or other health care and treatment.

I authorize my dentist to make photos, slides, x-rays or any other visual aids of my treatment to be used for the advancement of implant dentistry in any manner my dentist deems appropriate. However, no photographs or other records which identify me will be used without my written consent.

I realize and understand that the purpose of this document is to evidence the fact that I am knowingly consenting to the implant procedures recommended by my dentist and that I understand the risks inherent in doing so.

I AGREE THAT IF I DO NOT FOLLOW MY DENTIST RECOMMENDATIONS AND ADVICE FOR POST-OPERATIVE CARE, MY DENTIST MAY TERMINATE THE DENTIST-PATIENT RELATIONSHIP REQUIRING ME TO SEEK TREATMENT FROM ANOTHER DENTIST. I REALIZE THAT ONGOING POST-OPERATIVE CARE AND MAINTENANCE TREATMENT IS CRITICAL FOR THE ULTIMATE SUCCESS OF MY DENTAL IMPLANTS.

Questions I have to ask my dentist:

__________________________

__________________________

__________________________

__________________________

__________________________

__________________________

__________________________

I understand that the proposed treatment for my dental problem will involve the following surgical procedure:

Upper:

__________________________

Lower:

__________________________

The expected outcome of treatment (prognosis) is:

Upper: ____________

Lower:

__________________________

I understand that my dental problem can be alternatively treated by:

__________________________

I understand that the recommended treatment has the following advantages over the above alternative(s):

Better esthetics and function with a fixed prosthesis

__________________________

I have read this booklet and I FULLY UNDERSTAND THE ABOVE AUTHORIZATION AND INFORMED CONSENT TO IMPLANT PLACEMENT AND SURGERY AND THAT ALL OF MY QUESTIONS, IF ANY, HAVE BEEN FULLY ANSWERED. I HAVE HAD THE OPPORTUNITY TO REVIEW THIS FORM BEFORE SIGNING IT.

__________________________

__________________________

__________________________

__________________________

__________________________

__________________________

Signature of Patient or Guardian

Dated

Witness

Dated

Witness

Dated
Implant Surgery #8 and #9

Operative report of implant surgery:

March 8th 2010

BP: 123/71, pulse 69, O2 saturation 98-99%.

2 grams of Amoxicillin administrated to the patient on the morning of surgery. Patient was asked to rinse with Peridex (oral rinse containing 0.12% chlorhexidine gluconate) for 3 min and his face was swabbed with betadine solution. Patient was fully draped for surgery and local anesthetic 2 carpules Lido 2% 1/100000 epinephrine was administrated by infiltration buccal and palatal in the maxillary anterior sextant. An intrasulcular incision around teeth #7 and #10 and crestal incision in the anterior edentulous area was done using 15c blade. Full thickness mucoperiosteal flap reflected and with the use of a surgical template the osteotomy for implant placement in position of 8 and 9 was started. Straumann Surgical kit was used for the placement of two Bone Level SLA Active implants.
• with a diameter and length of: 3.3 mm x 14 mm.

• During sequential osteotomy preparation bone quality on site was evaluated as 2-3. No countersink drill used. Insertion torque 20 and 25 N/cm. Implants were primary stable and placed 3-4mm from the predetermined cervical margin of the surgical template. Healing abutments of Ø3.6mm by height 3.5mm placed. Hydrated 0.5cc xenograft Bio-Oss® (Geistlich) small particles applied over the buccal plate and healing abutments. A Bio-Gide® (Geistlich) collagen membrane was stabilized with titanium tacks. Primary closure obtained with vicryl 5.0 suture. End BP: 138/73, pulse 70, O2 saturation monitored by pulse oximetry: 98-99%.

• The Essix retainer was adjusted free of contact with the surgical site. PO instructions reviewed with patient in oral and written form. Patient tolerated the procedure well.
Implant Surgery x-rays
Post-Operative Care

What were your post-operative instructions for this patient?

- Patient was told to continue gentle rinsing with Peridex for the following 2 weeks. Also gentle rinsing with lukewarm salt water will aid the healing process (add one half teaspoon of salt to a 6oz glass of water). Avoid the use of a water-pick tooth brush. Vigorous rinsing of the mouth prolongs bleeding by removing the clotting blood. No drinking through straws. The use of a straw creates negative pressure in the mouth and will tend to loosen the sutures. Patient was given a soft brush to use.

- Patient was advice to continue taking Amoxicillin TID until done 21 capsules. Motrin 800mg was prescribed for pain as needed. Smoking is to be avoided for the time of healing (increases the heat in the surgical site and significantly lowers the body’s ability to heal the site). Avoid alcohol with post operative medications.
Post-Operative Care cont…

- Patient was instructed to apply the ice pack that has been given for a period of 20 minutes on and 20 minutes off during the day for the next two days. The application of ice to the outside of the face over the surgical area will minimize swelling.

- Patient was told following surgery to restrict diet to liquid diet foods for the first 2 weeks and soft diet for the following 2 months. Also to avoid chewing on the surgical site until the tissue is completely healed. Is better to remove the Essix retainer when having meals. Soft foods such as Jell-O, pudding, mashed potatoes, scrambled eggs and soups are suggested. If having difficulty chewing, try blenderized foods or diet supplements such as Carnation Instant Breakfast and Ensure.
Maintenance

What is your maintenance protocol?

- 24 hour phone call; 2 weeks suture removal. Follow the diet instructions for the first 2 months. Hygiene procedures by brushing, flossing, and rinsing as usual.

- Periapical radiographs taken once a month to monitor healing.

List this patients maintenance history:

- 24 hour phone call; 2 weeks suture removal. Follow the diet instructions for the first 2 months. Hygiene procedures by brushing, flossing, and rinsing as usual.

- An Essix retainer free of tissue contact was fabricated.

- Periapical radiographs taken once a month to monitor healing.
Prosthetic Restoration

- What type of restoration was placed?

  Fixed partial denture with retainers as central incisors #8, #9 and a distal cantilever on lateral incisor #7. (Due to financial constrains and willing to accommodate esthetics, 2 implant supported three unit fixed partial denture was decided with a cantilever on lateral incisor position).

- Explain:


  - Fabrication and placement of provisional titanium abutments and provisional resin fixed partial denture. Hygiene procedures by brushing, flossing underneath the cantilever area, and rinsing as usual.
Prosthetic Restoration

- Explain:
  - Maxillary implant level impression with the replica of the transmucosal path that will be mounted in a semi-adjustable articulator.
  - Fabrication of the custom abutments and try in.
  - Fabrication of the metal substructure of the IFPD and try in.
  - Biscuit try in and final adjustments.
  - Delivery of custom abutments and fixed partial denture along with an occlusal guard.
Implant uncovering procedure
Implant uncovering procedure
Impression copings x-ray
Extraction of #7 with socket seal procedure
Extraction of #7 with socket seal procedure
Extraction of #7 with socket seal procedure
Extraction of #7 with socket seal procedure
1 week post-uncover surgery
Provisional Abutments # 8,9 at 1 month post uncovering
6 weeks post uncover surgery
Open tray impression copings with replica of transmucosal path
Impression copings seating radiographs
Open Tray Impression Copings splinted
Final Impression Open Tray (PVS) with attached implant analogs
Maxillary Working Cast
Gold Custom Abutments # 8,9
Gold Custom Abutments # 8,9
x-ray
Substructure Fixed partial Denture
Substructure Fixed partial Denture x-ray
Immediate post prosthetic placement x-ray (insert)
Occlusal view of maxillary arch (insert)
Occlusal view of mandibular arch (insert)
Frontal view in maximum intercuspation position (insert)
Left side (insert)
Right side (insert): replace photo
One year post prosthetic placement x-ray (insert)
Revision (if necessary)

- No revision surgery was necessary for this patient.