

PATIENT AFTER PHOTO

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FULL MOUTH RESTORATIVE DENTISTRY | AVOIDING THE MOST COMMON PITFALLS

By Dr. Sue Chhay

ABSTRACT

Today, reconstruction and regeneration of lost periodontal structures, replacement of compromised teeth with implants, and creation of esthetic results are integral parts of clinical practice. This case represents an entire office team approach in order to achieve the desirable results with the necessary documentation to comply with the rules and regulations in our profession. It serves as recourse to assess whether our practice protocols meet the guidelines, but most importantly, avoid the most common pitfalls.

INTRODUCTION

We oftentimes, as oral health providers in a much more demanding and knowledgeable society than ever before, overlook the importance of the current trend in dental practice laws. Perhaps due to busy schedules or a lack of updated awareness to fully document pertinent details with surgical treatment cases that are subjective in treatment outcomes, patient records are lacking in substance. When we encountered a new patient presenting with years of neglect and in need of a full mouth restorative work from restorations to periodontal surgery and dental implants, clinicians possess an overwhelming desire to help the patient. Dentists sometimes focus on the clinical procedures, but often neglect seemingly insignificant details on records keeping. In actuality, our records play an integral and indispensable facet in the overall treatment outcome. This case study focuses on; socket preservation on site no.14 with osseous surgical procedure on upper left quadrant, and implant placement on site no.14, emphasizing documentation and presentation during treatment planning.

CASE REPORT

A 70-year-old male presents with years of neglect to his oral health. He smoked for 40 years quitting in 2012. He desired to invest in his oral health. Great resolutions! He presents with missing teeth nos. 3 and 4. He does not have pain but notices roots are exposed. He desires to maintain all of his remaining dentition and replacing the missing teeth. The plus side to this is that he possesses a positive attitude and is ready to transform his oral cavity to a state of health, with enhanced function and esthetics.

PRE-OP



Figure 1: Initial Panorex

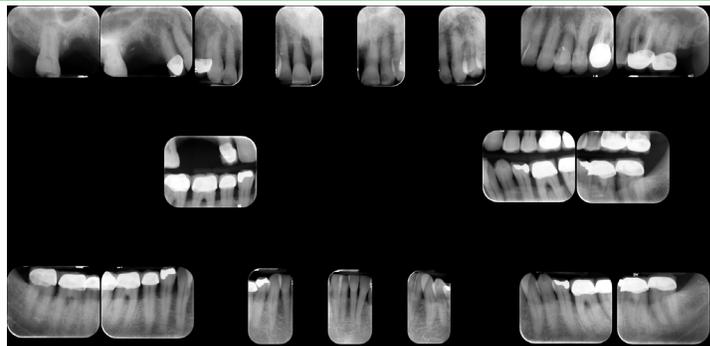


Figure 2 Initial full-mouth series



Figure 3: Pre-Operative Photos



Figure 4: Pre-Operative Photos

TREATMENT PLANNING

A comprehensive oral examination was performed which included a panorex, a full-mouth series, intra oral photos, and a full mouth periodontal charting. (Figure 1-4) Medical history reviews with no known drug allergies and an unremarkable health history.

Extra/Intra Oral Examination:

- No abnormalities or pathologies noted. No TMJ clicking, popping, crepitus or pain. No deviations or limitations upon opening. Lymphadenopathy along submandibular nodes noted bilaterally.
- Cancer screening negative. ASA II classification.
- Vital signs: BP: 132/84, P: 60.

Radiographs interpretation completed:

- Radiolucencies noted in furcation areas. Vertical defect noted on lingual wall of tooth no.12. Maxillary sinus pneumatization on right side noted.

Preventive measure: SOAP format utilized.

S: I have severe bone loss that I want taken care of so I can keep my teeth after quitting smoking.

O: Presence of carious lesions, previous restorations. His risk factors are snacking on chips, exposed roots, and no flossing. His protector factors are a daily brushing with fluoride toothpaste, drinks fluoridated water, and desires to keep his teeth.

A: Moderate risk for caries, low risk for xerostomia, low risk for oral cancer, but high risk for periodontal disease.

P: Periodontal therapy along with Operative and Fixed restorative. Periodontal maintenance at every three to four months.

Restorative treatment need on caries noted on teeth nos. 7-DLF, 10-DF, 25-DF, 28-DO. Restorative material is composite. Four units fixed prosthesis replacing missing teeth nos. 3 and 4, dental implants following bone graft on site nos.3&4, and no treatment discussed. Four units fixed prosthesis accepted with short and long-term prognosis discussed.

Periodontal evaluation with the following significant findings:

- Patient presents with generalized bone loss with severe bone loss involving teeth nos. 12, 14, and 19. Furcation involvement noted on teeth nos. 14, 19, and 30. Gingiva appears erythematous with purulent exudate on sites nos. 14 and 19.

Occlusal assessment conducted with significant findings:

- Fremitus noted on teeth nos. 8 and 14.

Diagnosis(es) include:

Generalized chronic moderate periodontitis with localized severe bone loss involving teeth nos. 8, 12, 14, 19. Prognosis on teeth nos. 14 and 19 is hopeless. Questionable prognosis on teeth nos. 8 and 12. All other teeth are fair to good.

Treatment plan presented for restoring periodontal health in the order listed:

- Non-surgical therapy consisting of full-mouth SCRIP with re-evaluation in four-six weeks followed by formulation of surgical treatment plan if needed.
- Surgical treatment plan on upper right quadrant include osseous, GTR on site no.12 with socket preservation on tooth no.14 for dental implant placement. Osseous surgery on lower right quadrant. Osseous surgery on lower left quadrant with socket preservation on tooth no.19 for dental implant placement. Extraction of teeth nos. 14 and 19.
- Periodontal maintenance every three months.
- Fabrication of occlusal guard.

Proposed treatment plan and alternative treatments discussed with patient. Associated risks and benefits, pros and cons of treatment versus no treatment discussed. Patient understands and consents to outline treatment. Treatment plan estimate signed and consent for treatment accepted and signed.

FIRST SURGERY



Figure 5: Intrasulcular Incisions



Circumferential defect visualized on lingual on tooth no.12



4-vicryl4-0 Vicryl



Cytoplast: non-resorbable membrane

FIRST SURGERY POST-OP



One Week Post-Op



One-month post-op membrane removed



Three-month post-op



Six Months Post-Op



SECOND SURGERY



Surgical Guide Try-in



Osteotomy on site 14 prepared with 2.2mm twist drill. Continued with 2.8mm and 3.5mm twist drill

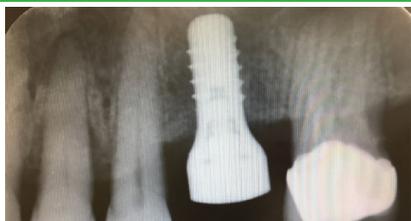


Straumann SLActive wide neck 4.8mm x 10mm



4-0 chromic gut interrupted sutures

SECOND SURGERY POST-OP



Three-month post-op



Four-year post-op



One-month post-op



Occlusal Guard



Post-op



Post-op



Post-op

METHODS & MATERIALS

Local anesthesia:

3% Carbocaine plain x 51mg and 4% Septocaine with 1:100k epinephrine x 136mg via ASA, MSA, PSA and Greater Posterior Palatine blocks. Oral Sedation: .25m Tiazolam. Confirmed NPO for 6 hours prior. Escort present. Patient continuously monitored throughout procedure by CritiCare unit.

The challenge is to preserve the buccal bone during extraction of endodontically treated tooth no.14. Full thickness flap reflected on buccal and lingual surfaces. Elevation and forcep extraction of tooth no.14. Curretting tissue from extraction site is significantly crucial in the preservation of the socket and to the success of osseointegration of dental implant. Osseous reduction was not necessary. Rinsed site with saline.

Circumferential defect on palatal of tooth No.12 visualized. Etched area with EDTA for 2 minutes. Rinsed with saline. Placed Tricalcium phosphate with Gem 21 into defect. Placed bone graft, Encore with Gem 21, into extraction site 14. Placed non-resorbable membrane, Cytoplast, over graft site. Buccal and lingual flaps sutured with 4-0 Vicryl. Pressure applied with gauze and hemostasis achieved. No complications. POI given.1,2,3,4

RX:

Amoxicillin 875mg BID for seven consecutive days

Ibuprofen 800 mg x 25

Periodex 0.12% CHX rinse

Six-months later, patient returns for implant placement on site 14. Midcrestal incision made from tooth No. 12 to tooth No. 15. Buccal and lingual full thickness mucoperiosteal flaps reflected. 2.2 Surgical guide tried in. Osteotomy on site 14 prepared with 2.2mm twist drill. 2.2mm guide pin tried in on site 14 and periapical radiograph taken. Angulation noted and corrections made with remaining osteotomy sequence. Continued with 2.8mm and 3.5mm twist drill. Copious irrigation with sterile saline used for all intraosseous preparation.

4.8 mm x10 mm (Straumann SLActive wide neck) implant placed with implant hand piece. Healing abutment size 4.5 mm placed and tightened to finger pressure. Flaps reapproximated and closed with 4-0 chromic gut interrupted sutures. Hemostasis achieved. PA radiograph taken. OHI reinforced during periodontal maintenance phase.

A centric occlusal device, night guard, placed that maintains a uniform Maximum Intercusation (MI) with slight anterior guidance. The red marks recorded in centric relation, the blue lines recorded anterior guidance.1,2,3

DISCUSSION

The most common question I have been asked, "Is surgical guide a minimum standard of care?" The answer is "no" however, inadequate implant work-up that leads to failure can be subjective. Surgical guide and cone beam are not the standard of care but it can be significant and beneficial in difficult or complex cases. The aforementioned case appears simplistic in many respects but the most intricate question we should be asking is, "Can we as general dentists with advanced knowledge and skills in all areas of dentistry provide the outcomes desirable to patients for their investment?" Of course, we can custom design treatment plans based on each unique individual patient. We must thoroughly document and review the patient's chief complaint, health history, vital signs, extra/intra-oral evaluation including cancer screening, appropriate radiographs taken and interpreted, full-mouth periodontal charting, all treatment options including no treatment discussed in details, and we must not encourage unrealistic ideas that can implicate unfair-dealing.

Patients must be educated so that they have realistic expectations, as they desire the most for their investment. As long as there is a thorough discussion beforehand, it most likely will lead to a collaborative team effort. Our profession sustains the highest integrity, we serve the public, we cater to the fearful and neglected group of patients, and therefore, we must represent what is right and provide what is best for our patients.

CONCLUSION

As baby boomers are living and enjoying longer life spans, general dentists are the gatekeepers for their oral health. We encounter geriatric patients with the desire to retain their natural dentition and replace missing teeth. Unlike the aforementioned patient, most present with remarkable health history with medical conditions that may modify treatment. Periodontal diseases, missing numerous teeth, rapid caries, and high prevalence of oral cancer, xerostomia, and dementia are cases we have encountered. As gatekeepers, we must continue to be up to date in all aspects of clinical dentistry, from simple restorative dentistry to complex full-mouth rehabilitation. The clinical aspects can be extremely rewarding with diagnostic acumen, details and proper work-up. In addition, our records require team-effort from administrative to dental assistant staff in order to maintain adequate documentation. Avoid expedited procedure appointments that may lead to poor quality of care, and the most common pitfalls. Clinical dentistry has proven to be challenging yet rewarding; consequently, a holistic team approach creates a win-win for all parties involved. Through the Master Track training, I acquired the confidence, the knowledge, the extra needed skills, but most importantly, the life-long members and participants who are passionately lending and sharing knowledge with me. Master Track is where I found friendship, a supportive group of scholars, and great folks!

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ABOUT DR. SUE CHHAY



Dr. Chhay earned Bachelor Science in Biology and Mathematics from University of Texas at Arlington, Texas in 1994, and her Doctorate of Dental Surgery from Baylor College of Dentistry in 1998. She is a Clinical Assistant Professor at Texas A&M College of Dentistry since January 2012, and maintains a private practice in Grand Prairie, Texas since 1999. She serves on the Integrated National Board Dental Examination Committee for the American Dental Association and the Dental Review Panel/Expert Witness for Texas State Board of Dental Examiners. She has been a member of the Academy of General Dentistry, Texas Academy of General Dentistry and the Dallas Academy of General Dentistry since 2012.

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