ABGD Sample Standardized Treatment Planning Case Scenario

(Original case provided by Dr. Rachel Myaing-Misfeldt; Clinical presentation and treatment plan modified to meet current ABGD guidelines)

The patient is a 69 y/o retired Marine Corps officer who has not received any significant dental health care since his retirement thirteen years ago. Upon initial presentation he states "I want my missing teeth replaced, some are in need of repair, and my tooth on the lower left side has been hurting me for the last two weeks. I have neglected my teeth for too long." This patient also reports having a history of hospitalizations with Hepatitis A in 1963 with no liver damage, and total left hip replacement six months ago, again with no complications. He denies having any systemic diseases, denies tobacco use, denies any history of clenching/grinding of teeth, and he consumes approximately four glasses of wine per week.

Medications:

A. Prilosec 20 mg qd
B. Aspirin 325mg qd
C. Multivitamins

Examination:

A. CR=MI
B. Lateral excursive guidance: Right: 7/23; Left: 9/24, 25.
C. Missing teeth #'s: 1, 2, 16, 17, 19, 20, 29, 30 & 32
D. Retained root tips 10, 11 (non-restorable)
E. Mandibular midline deviation to the left -- 3mm.
F. See attached periodontal charting form.
G. Radiographic periradicular radiolucency #'s 10, 11 &18.
H. Caries #3, 7, 15, 18, 28.
I. #32 Pell and Gregory Position C/III
J. Asymptomatic 4mm x 12mm raised, white, corrugated, non-ulcerated, lesion on left lateral border of tongue, of unknown duration. No history of trauma.
K. No history of TMJ symptoms, or pathosis. Normal range of motion. Maximum opening = 47mm.
L. Miller Mobility Class II: #24, 25.
M. Glickman Grade I furcation: 14 M, 15 BD, 18 L, 31 L; Grade II: 3 MBD, 14 BD, 31 B,
N. O'Leary Plaque Index: 80%.
O. Generalized bleeding on probing.

PSR SCORES		
3*	3	3*
3*	4*	3*

P. Existing Root Canal fill #28; radiographic appearance consistent with gutta-purcha fill, slight (0.5mm) overextended obturation, asymptomatic, no radiographic evidence of periradicular lesion or root resorption.
Q. Mandibular Seibert ridge Class III both R and L sides; Maxillary Seibert ridge class II in the #10/11 position.

CLINICAL PHOTOS


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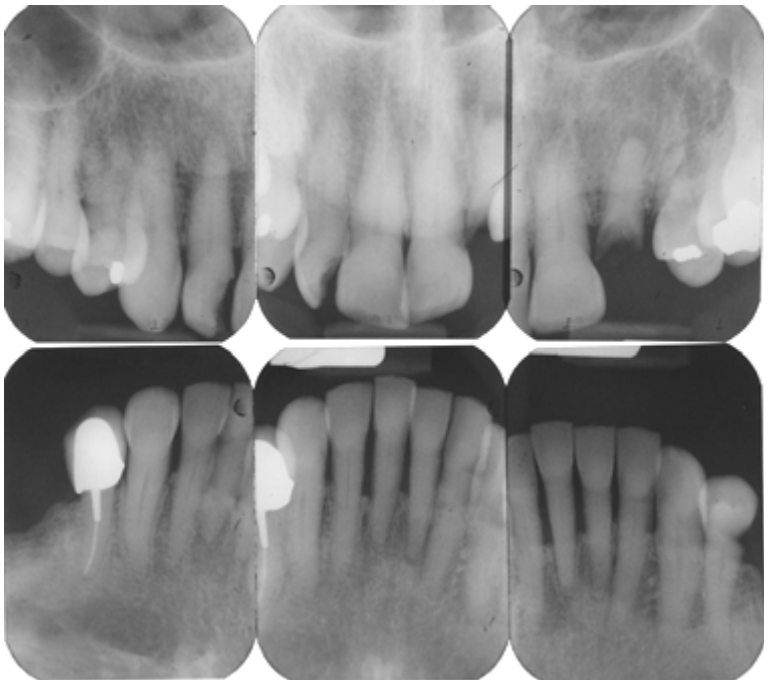

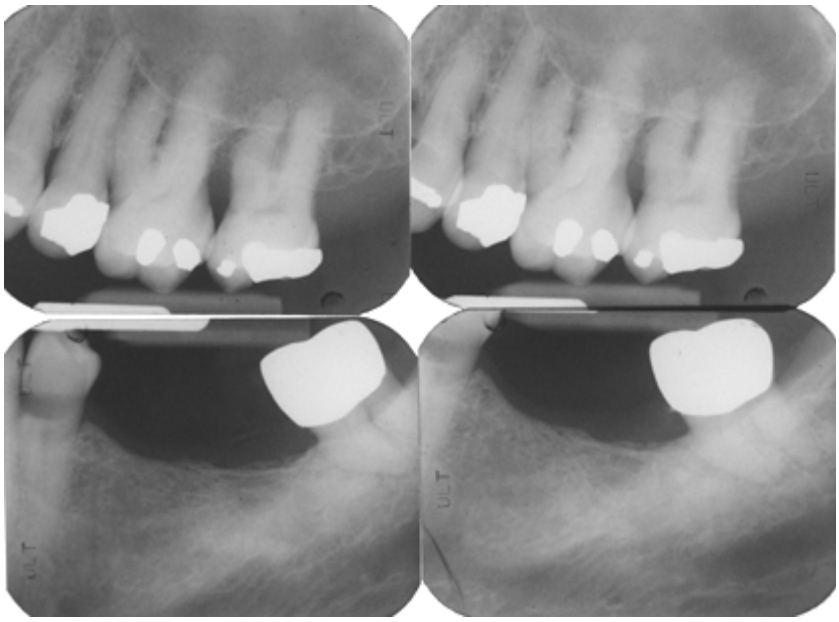
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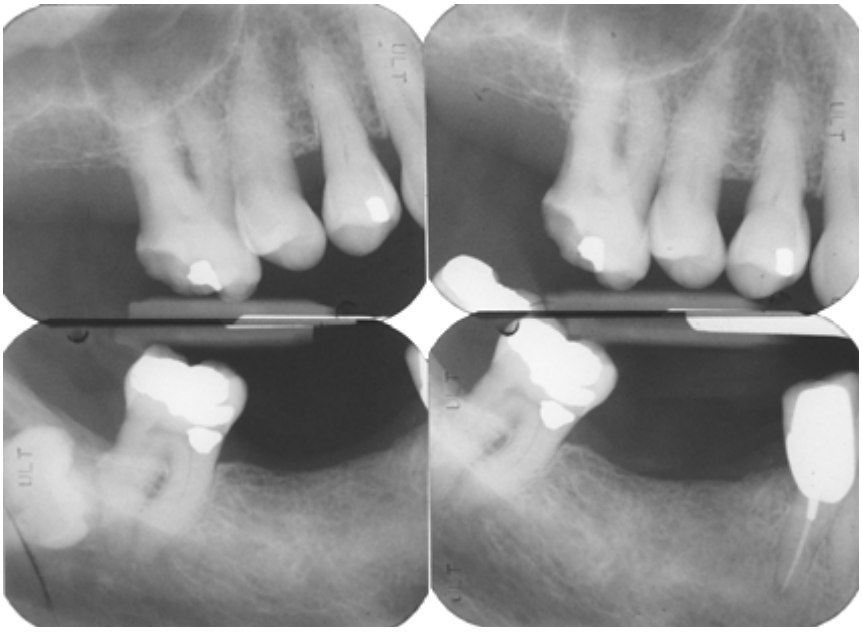
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ABGD Sample Standardized Treatment Planning Write-Up

I. DIAGNOSIS/PROBLEM LIST

A. CHIEF COMPLAINT:

"I want my missing teeth replaced, some are in need of repair, and my tooth on the lower left side has been hurting me for the last two weeks. I have neglected my teeth for too long."

B. MEDICAL/SYSTEMIC

1. ASA I
2. Meds: Prilosec, Aspirin
3. Total joint replacement of left hip six months ago

C. ORAL PATHOLOGY

1. Asymptomatic 4mm x 12mm raised white lesion of unknown duration and no history of trauma on left lateral border of tongue.

D. PERIODONTAL

1. Generalized moderate chronic periodontitis w/localized severe periodontitis
2. Ineffective oral hygiene.
3. Localized slight calculus & generalized plaque.
4. Miller Mobility Class II: 24, 25 (Hopeless)
5. Glickman Grade I: 14M, 15 BD, 18 L, 31L; Grade II: 3MBD, 14BD, 31B.
6. Marginal ridge discrepancies: 13/14, 14/15.
7. Biologic width violation and poor crown/root ratio #28.

E. ENDODONTICS

1. Radiographic periradicular lesion associated with mesial root #18. Diagnosis consistent with necrotic pulp and symptomatic apical periodontitis.
2. #28 - 0.5mm overextended obturation.

F. ORAL SURGERY

1. Pneumatization of maxillary sinus.
2. #32 complete bony impaction; Pell and Gregory Position C/III -- No clinical or radiograohic pathology evident.
3. Nonrestorable roots: #10 & 11.

G. RESTORATIVE

1. Generalized tooth decay
2. Carious lesions: #3 DOF, #7 MI.
2. Defective restorations/recurrent decay: #15, 18 and 28.

3. Cervical abfraction/abrasion lesions: Moderate: 4, 5, 13, 14, 23; Severe: #12, 21
4. Caries Risk: High

H. OCCLUSION

1. Angle's borderline class 3 right cuspid relationship
2. Compromised anterior guidance due to mutilated dentition.
3. Uneven occlusal plane due to supererupted and mesially tilted teeth.
4. Inadequate dentition for optimum masticatory function.
5. Cervical abrasion/abfraction – generalized.
6. Lateral excursive guidance: Right: 7/23; Left: 9/24, 25. No protrusive interferences noted.

I. PROSTHODONTICS

1. Missing teeth of concern: #'s 2, 10, 11, 19, 20, 29 & 30
2. Mandibular left and right posterior edentulous ridges = Seibert Class III Seibert Class II on Maxillary arch #10/11 area.
3. #18 FVC with mesial open margin/decay,
4. #28 FVC with insufficient post length with distal open margin/decay.
5. Biologic width violation and poor crown/root ration of #28.
6. Hopeless 24,25
7. Unesthetic appearance
8. Mesial tilt 18, 31
9. Occlusal plane discrepancies

II. TREATMENT OBJECTIVE/OVERVIEW

The main objective for this particular case is to restore the patient to a state of optimum dental health, function and esthetics that can be maintained by the patient. Not to be forgotten will be the need to address the patient's chief complaint at the most reasonable and opportune time during the various phases of the treatment plan. In order to achieve this goal, the following areas must be addressed…….

1. Oral Surgery consultation -- biopsy tongue lesion.
2. Orthopedic consult – antibiotic prophylaxis for total joint replacmement.
3. Diagnostic wax-up for occlusal analysis using 20° template.
4. Extract #10 &11, 24, 25 and deliver Maxillary/Mandibular TTPs.
5. Actively treat and control the carious disease process through education, diet modification, elimination of active lesions and defective restorations, use of fluoride, Xylitol products, and chlorhexidine.
6. Achieve and maintain periodontal health through the reinforcement of oral hygiene, effective home care, and professional in-office treatment. Scaling and root planning will be performed as initial therapy, followed by a 6 week reevaluation. Periodontal maintenance therapy will be performed every three months according to current accepted therapeutic protocols.
7. #12 elective NSRCT; #18 NSRCT; #28 NSRCT for use as overdenture abutment.

8. Restore generalized abfraction/abrasion lesions.
9. Reevaluate the patient's disease risk assessment prior to progressing to the "corrective phase" of treatment.
10. Develop a right side mutually protected occlusal scheme and a left side group function.
11. #3, 18 & 31 crown lengthening surgery and mandibular anterior pocket reduction procedure. Option for crown lengthening procedure on #12 if required to maintain biological width – to be determined after elective NSRCT.
12. Surveyed gold crowns # 3,18 & 31. Surveyed PFM #12
13. RBB 23-26
14. Maxillary Class 3 Lateral Rotational Path RPD and Mandibular Class 3 Mod 1 RPD to replace missing teeth to increase patient's chewing efficiency and provide stability of occlusion. Due to the patient's current financial status and personal preference, removable partial dentures will be selected as the treatment of choice vice implants.
15. Three month recall for periodontal maintenance, caries assessment, endodontic, prosthodontic, and biopsy follow ups.

III. TREATMENT PLAN WITH RATIONALE

A. EMERGENCY PHASE

Treatment	Rationale
#18 Pulpectomy	-Relieve patient of pain, prevent progression to acute apical abscess, and to gain patient trust and confidence. The tooth displays a painful response to biting and percussion, and demonstrates an apical radiolucency. Calasept a calcium hydroxide intracanal dressing, placed between appointments for its antimicrobial affect; Glass Iononmer temp to minimize microleakage.

B. SYSTEMIC PHASE

Treatment	Rationale
Orthopedic Consult	-Total joint replacement within a two year period places patient at a potential increased risk of hematogenous total joint infection. Response from consult = Orthopedic surgeon recommends antibiotic prophylaxis of Amoxicillin 2g orally 1 hour prior to each dental procedure.

C. PREPARATORY PHASE

Treatment	Rationale
Oral Surgery consult for lingual lesion – biopsy	- To determine etiology and treatment options.
Alginate impressions for TTP's 10, 11, 24, 25	-To maintain esthetic appearance during initial phase of treatment; affords time for reevaluation of tissue responses and patient compliance during the preparatory phase to treatment. .
Odontectomy #10, 11, 24, 25 w/ridge preservation	-To eliminate non-restorable and grossly carious roots as well as hopeless periodontally involved teeth. Hard and soft tissue ridge preservation utilizing Bio-Oss osteoconductive xenograft material to minimize osseous defects and compromised esthetic outcomes. Resorbable collogen membrane to contain particles and preserve graft.
2% Lidocaine with 1:100,000 epinephrine (will be used for all dental procedures requiring local anesthesia)	-Amide; 60 min pulpal, 3-4 hrs soft tissue anesthesia, low occurrence of allergic reactions.
Deliver maxillary/mandibular temporary treatment partial dentures	-Acrylic TTPs to provide an acceptable esthetic appearance and to maintain space.

Occlusal analysis and diagnostic wax-up	-To evaluate initial presentation of tooth-to-tooth and arch-to-arch relationships -- CO/MI discrepancy. To develop the most practical, protective, and functional occlusal scheme; evaluate final restoration contours/esthetics; fabricate stents for tooth reduction guides and provisional restorations. Develop custom guide table to establish/preserve anterior guidance for duplication by the laboratory. Fabricate custom trays. Presentation of case to patient.
Alginate impressions (3-sets)	-Inexpensive, quick and easy, good accuracy of surface detail. One set each for diagnostic mounting, diagnostic wax-up, and RPD designs
Hanau wide-view semi-adjustable articulator	-Class 3 Arcon semi-adjustable articulator; recommended when multiple restorations, FPD's or RPD's are going to be fabricated and there is a greater need for accuracy. Accepts a facebow transfer; can adjust horizontal and lateral condylar guidance; adjustable anterior guide table.

Face Bow Protrusive and lateral bite records	-Transfers the relationship of the maxillary teeth and the transverse horizontal axis to the articulator, thereby duplicating the arc of closure exhibited by the patient. -Used to set the horizontal condylar inclination and Bennett angle to simulate excursive movements.
Diagnostic mountings Occlusion will be restored utilizing a 20° occlusal template	-Aids in evaluating maxillary/mandibular occlusal relationships and occlusal discrepancies. Equilibration of duplicate casts aids in determining the extent of occlusal adjustment needed to establish a coincident MI/CO relationship and elimination/reduction of excursive interferences; survey hard/soft tissue undercuts, evaluate retentive areas and for clasp design, evaluate guide planes, plan for surveyed crowns. -Reconstruction to a 20° template could be accomplished in this case without requiring significant extensive restorative effort. Reasonable compromise between esthetics, chewing efficiency and cusp height; minimizes damaging lateral stresses.
Restore in Long Centric Occlusion Develop a mutually protected occlusal scheme on the right side	-The jaw-to-jaw relationship in which the condyles articulate with the thinnest avascular portion of their respective discs with the complex in the anterior-superior position against the slopes of the articular eminences, regardless of any tooth-to-tooth relationship; A repeatable and verifiable position from which to restore the occlusion; Long Centric = Freedom to close the mandible either into centric relation or slightly anterior to it without varying the vertical dimension at the anterior teeth. -Natural cuspid teeth are present and functional. More predictable treatment outcome, minimal adaptation required by the neuromuscular system, decreased muscle activity, reduced wear and stress on posterior teeth, increased stability. Stable occlusal position, stable excursive contacts

Develop a group function occlusal scheme on the left side	-Missing left canine, impractical to restore in canine guidance; widens distribution of forces; minimizes stresses on RPD framework, remaining teeth and residual ridge.
Medical Model of Caries Control	-Risk assessment/combat S. Mutans infection, Modified O'Leary plaque index, Establish daily oral hygiene regimen, diet analysis and counseling, 2% NaF in-office tx of 4 applications over 4 weeks – antimicrobial; Prevident 5000 toothpaste – remineralization; Peridex regimen – antimicrobial; Xylitol gum – antimicrobial; Restore carious teeth and defective restorations to eliminate seeding lesions; Reevaluation to determine patient compliance and efficacy of treatment.
Scaling and Root Planning	-Root plane areas with probing depths > 4.3mm, remove accretions and endotoxins, alter subgingival microflora, detoxify root surfaces, resolve gingival inflammation, reduce probing depths through establishment of a long junctional epithelium, establish biologically acceptable root surface for reattachment and/or regeneration procedures; 4-6 wk follow-up to evaluate tissue response
NSRCT # 18;	-Periradicular lesion #18, previously initiated therapy at emergency phase. Initial presentation consistent with symptomatic apical periodontitis.
Elective endo retreat #28.	-To use as overdenture abutment w/3i locator attachment.
Elective endo #12	-Severe abrasion has resulted in visualization of the buccal root canal. For best long term prognosis and the need to establish proper mesial undercut for a rotational path RPD via a surveyed PFM, elective NSRCT is recommended.
Step-Down-Step-Back Technique	-Pre-flare with Gates-Glidden, Anti-curvature filing to maintain integrity of canal walls, instrumentation of coronal 1/3 improves access to the apical 1/3. Early flaring improves irrigation and reduces apical debris extrusion. Instrument within 0.5-1mm of radiographic apex to maintain anatomical apical constriction and

	control zone.
5.25% Sodium hypochlorite irrigation;	-Baceriocidal, dissolves residual tissue, lubricates, aids in debridement.
RC Prep	-Oxygenating/chelating agent, lubricant, facilitates improved debridement by keeping dentinal debris in suspension.
Lateral condensation with Gutta-Percha and Roth's Sealer	-Comparable or superior to alternative techniques, proven apical seal. Gutta-percha is biocompatible, capable of a three dimensional fill, easy to retreat and radiopaque. Roth's sealer fills voids in gutta-percha, improves apical seal, radiopaque, fills lateral canals and aids in placement of gutta-percha points.
Perma-flo Purple orifice sealer	-Provides interim coronal seal minimizing chance of microleakage and recontamination.
Cavit access closure	-Provides adequate temporary seal, easy to use, inexpensive.
Operative restorations:	-Rubber dam isolation for all operative procedures, provides isolation, tissue retraction, improved visualization, protects the patient from foreign body inhalation, provides increased infection control by reducing aerosol contaminants.
#18 Core amalgam	-Tytin spherical alloy for enhanced early compressive strength, high copper content and superior mechanical properties for core substructures. To be placed in preparation for full gold crown prep and surveyed crown.
3 & 15 (Amalgam)	- Dispersalloy (admix) amalgam, excellent compressive strength and mechanical properties, adequate working time, condenses well to develop contacts.
7 (Composite Resin)	-Acid etch (37% phosphoric acid); PQ1 bonding agent = 61MPa bond strength, radiopaque, bonds to dentin/enamel, cast metal, porcelain, amalgam and composite. Amelogen Plus composite restorative material = microhybrid composite with 0.7micron max particle size, radiopaque, superior polish, 76% fill by

	weight, increased wear resistance and strength, used for Class 1 through 6 restorations.
Cervical lesions (resin modified glass ionomer).	-Fuji II LC = excellent retention to dentin, fluoride release, biocompatibility, chemical bond to enamel and dentin, enhanced esthetics compared to chemical cure glass ionomers, improved resistance to acid solubility, favorable resistance to micro-flexure forces created by bruxism.
#12 Custom gold post/core	-To achieve maximum retention and resistance form for a surveyed PFM restoration; Type 4 gold prevents corrosion products which might compromise esthetics over the long haul; strong, durable and time tested as being the standard to beat. Fabricate using direct method with Duralay acrylic resin material; three dimensional fit ensures good retention. Cement with Ketac Cem which provides good compressive strength, adheres to tooth structure, fluoride release and ease of use.
Reevaluation of caries/periodontal disease control and biopsy site.	-If the disease processes are not under control, the patient will be placed in a "holding pattern" and treatment will not progress to the "corrective phase." This process is vital for any acceptable long-term prognosis. Evaluate diet analysis, O'Leary Plaque Index, periodontal charting, new incipient or carious lesions, patient compliance.

D. CORRECTIVE PHASE

Treatment	Rationale
#21-27 Undisplaced flap	-Increased visibility and accessibility to root deposits, eliminate or reduce pocket depth by resection of the pocket wall, remove bacterial plaque & calculus, detoxify roots, alter subgingival microflora, resolve gingival inflammation, minimize further attachment loss, prepare biologically acceptable root surface for reattachment and/or regeneration, reduction in probing depths.
#18 & #31 Crown lengthening (possibly #12 if indicated)	-Allow for proper tooth preparation, impression procedures, placement of attachments and to preserve biologic width (3mm between gingival margin and bone crest). Allow 4-6 weeks for healing prior to manipulation of tissues for final restoration.

#18 & #31 Surveyed full gold crowns; # 12 Surveyed PFM crown	-Full coverage restorations to protect coronal integrity, provide for enhanced fit, function, and retention of RPD frameworks. PFM #12 w/metal occlusal coverage to provide optimum wear characteristics against opposing dentition, accuracy of fit for RPD framework, and overall esthetics. Provisional restorations made with "Jet" acrylic for acceptable strength and resistance to wear; cemented with Temp-bond NE which provides adequate retention. Permanent restorations cemented with Ketac Cem which provides good compressive strength, adheres to tooth structure, fluoride release, ease of use, low solubility, coefficient of expansion similar to tooth structure. PVS impression material for all final impressions; ease of use, exceptional dimensional stability, accuracy, and hydrophilic properties.
RBB 23-26	-Eliminate RPD modification space and to enhance esthetic outcome; conservative preparation preserving tooth structure; acceptable long term prognosis. Cement with Panavia 21
#28 3i Locator abutment	-3i cemented "Locator" abutment = provides excellent retention of RPD's and CD's, ease of placement, simple maintenance, greatly enhanced function, excellent durability, superb patient satisfaction. Ketac Cem glass ionomer cement for ease of use and mechanical properties commensurate with the clinical application.
Maxillary Kennedy Class III Lateral Rotational Path RPD, Mandibular Kennedy class III mod I RPD	-Taking into consideration Ante's Law, the Law of Beams, angulation of abutment teeth, the patient's desires, and the overall expense of replacing missing teeth, removable partial dentures will be the treatment of choice for this case. This treatment will also enhance masticatory function, afford limited improvement of esthetics and stabilize the occlusion. Framework metal: Ticonium (ease of casting); Lucitone 199 Resin (Butadiene styrene reinforced PMMA); Denture teeth: 20-degree IPN; Polyvinylsiloxane impression material for exceptional dimensional stability, accuracy and hydrophilic properties. Follow-up appointments scheduled for 2 days, 1 week, 1 month and then 6 month intervals. See attached lab script for RPD design.

E. MAINTENANCE PHASE

Treatment	Rationale
3-6 month recall for periodontal/caries disease control. Eval endodontic treatment at 6 mos, 1 year and 2 year intervals. Perform scaling/root planning as needed, fluoride treatment and OHI.	-Control disease processes to afford the patient the best long term prognosis for treatment rendered. Evaluate patient compliance and efficacy of home care. Adjust recall schedule to fit requirements and needs of the patient. Generally it takes approximately three months for periodontal pathogens to repopulate pockets. Studies support that the patient can maintain attachment levels for three months with continued periodontal maintenance and follow-up.
Assess fixed, removable and implant prosthetic restorations at all recall appointments	-Check for changes associated with the wearing of RPDs, such as fit, stability, retention, tissues, and health of implant.
Eval biopsy site at each recall visit	-Monitor for recurrence of any pathology.

IV. PROGNOSIS

Since the beginning of treatment, and also noted during the reevaluation period, the patient has displayed a marked improvement in compliance and overall efficacy of home care. In light of the patient's newfound interest to ensure treatment success over the long haul, and the fact that the periodontal and caries disease process appear to be stable and under control, it is expected that both the short and long term prognosis for this case are considered to be good.

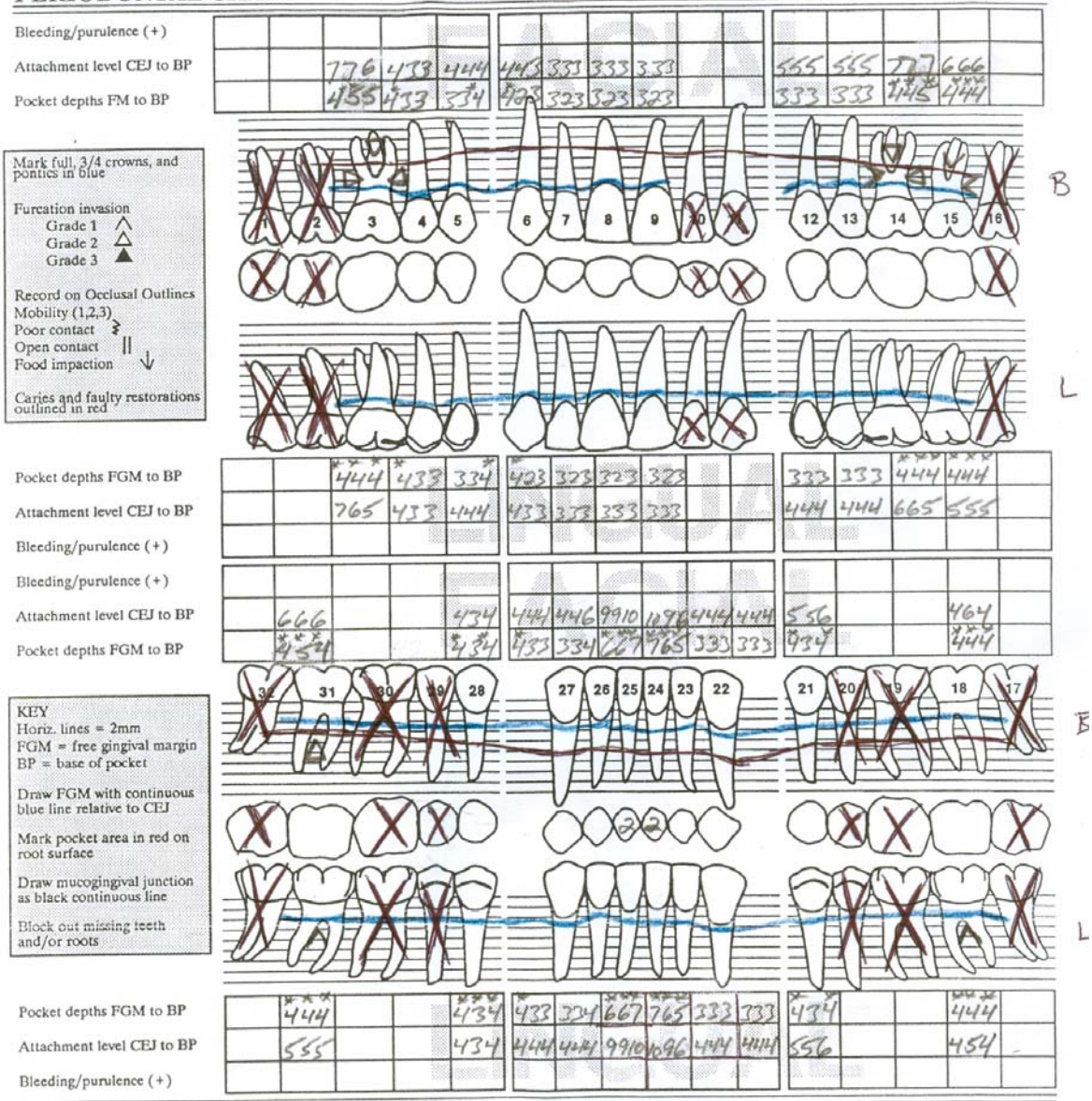
LAB SCRIPT

Maxillary Class 3 Lateral Rotational Path RPD				
Tooth #	3	4	9	12
Rests	M	D	C	M
Direct Retainer	CC .01” DB	CC .01” MB	.02” D proximal	.02” M proximal
Indirect Retainer	Lingual	Lingual		
Guide Plane			D	M
Major Connector: Palatal Strap Metal: Ticonium				

Mandibular Class 3 Mod 1 RPD				
Tooth #	18	21	28	31
Rests	M	M	3i Locator Abutment	M
Direct Retainer	CC .01” DB	CC .01” MB	.	CC .01” DB
Indirect Retainer	Lingual	Lingual		Lingual
Guide Plane	M	D		M
Major Connector: Mandibular lingual bar Metal: Ticonium				

PERIODONTAL CHART

Personal data - Privacy Act of 1974



PLACE OF EXAMINATION		EXAMINER		DATE
PATIENT IDENTIFICATION				
SEX	GRADE, RATE, OR POSITION	ORGANIZATION/UNIT	COMPONENT OR BRANCH	PHONE: (W) (H)
PATIENT'S LAST NAME - FIRST NAME - MIDDLE NAME			DATE OF BIRTH (Day-Month-Year)	SOCIAL SECURITY NO.

NAVMED 6660/2 (3/90)

S/N 0105-LF-009-2400

MEDICAL CONSULT

Date:

To: Orthopedic Surgeon
From: David Smith, D.D.S.

Mr. Jones, a 69 yr old male, in good general health, presents to our dental facility with a medical history of having a total joint replacement of the left hip approximately six months ago while under your care. It is generally recommended that he receive Amoxicillin 2g orally one hour prior to each dental procedure for the first two years following such a procedure. Please advise as to what you recommend prior to initiating comprehensive dental treatment to include dental prophylaxis, endodontics, routine fillings, tooth extractions, and periodontal surgery.