



**Assessment Tools for Measuring
Competencies in Predoctoral
Periodontics**

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I. Introduction

The Strategic Plan of the American Academy of Periodontology called for development of recommended outcomes assessments for predoctoral education in periodontics. This led to a development of a list of competency statements, which was approved by the Board of Trustees and distributed to all periodontal programs in 2000. A summary of information relevant to predoctoral competencies from the American Dental Association Commission on Dental Accreditation standards and the AAP's list of recommended periodontal competency statements for predoctoral students is provided in this document (pp. 2-3).

Accreditation standards mandate that dental schools employ student evaluation methods that assess the defined competencies. This, of course, implies that outcomes must be measurable. In an attempt to assist schools in their development of instruments and methods of assessing clinical competence, a Workshop for Predoctoral Periodontal Educators was convened in September 2001. This conference was organized by the Education Committee and supported by the Academy. The program included formal presentations of examples of outcomes assessment tools by two directors of predoctoral periodontics, Drs. Nico Geurs (Alabama) and Richard Oringer (Stony Brook). In addition, Dr. Tom Nowlin (University of Texas at San Antonio) provided information relevant to accreditation criteria. This was followed with breakout group sessions in which faculty shared examples of competency examinations relative to: examination, diagnosis and treatment planning; nonsurgical treatment and maintenance; reevaluation and referral. The workshop closed with a discussion period moderated by Dr. Norm Stoller (Colorado) in which groups shared highlights from the breakout groups.

The purpose of this document is to share with periodontal educators the basic elements of a good competency examination as well as representative examples of competency examinations. Each predoctoral program has curriculum, personnel and environmental issues that impact the development of outcome assessment tools, and our intent is that this information will serve as a resource to you for curriculum planning purposes.

II. Accreditation Standards

The most recently adopted accreditation standards for Dental Education Programs (January 1998) state that:

2-25 At a minimum, graduates must be competent in providing oral health care within the scope of general dentistry, as defined by the school, for the child, adolescent, adult, geriatric and medically compromised patient, including:

- a. patient assessment and diagnosis***
- b. comprehensive treatment planning***
- c. health promotion and disease prevention***
- d. informed consent
- e. anesthesia, sedation, and pain and anxiety control
- f. restoration of teeth
- g. replacement of teeth
- h. periodontal therapy***
- i. pulpal therapy
- j. oral mucosal disorders
- k. hard and soft tissue surgery***
- l. dental emergencies
- m. malocclusion and space management and
- n. evaluation of the outcomes of treatment

**Direct application to Periodontics*

It should be noted that the accreditation standards also require that the dental school define the competencies for each discipline needed for graduation (#2.7 of the Standards).

III. Competencies for Predoctoral Dental Students

In an attempt to help schools further define and standardize pre-doctoral periodontics education, the AAP Education Committee developed a recommended list of "Suitable Competencies in Periodontics for Graduating Dental Students". (June 2000).

The graduating dentist must be able to:

- 1) Demonstrate an understanding of the nature and etiology of periodontal diseases.
- 2) Conduct and accurately record the findings of a comprehensive periodontal examination.
- 3) Assess a patient for the presence of etiologic factors and risk factors contributing to periodontal diseases.
- 4) Diagnose periodontal diseases.
- 5) Develop an individual, comprehensive, sequenced treatment plan for patients with up to localized moderate chronic periodontitis using diagnostic and prognostic information which also incorporates patient's goals, values, and concerns.
- 6) Treat and or manage patients with gingival diseases and up to localized moderate chronic periodontitis, including patient education, management of interrelated systemic health, and effective subgingival scaling and root planing.
- 7) Evaluate the outcomes of periodontal therapies provided to their patients either within their office or services provided by a periodontist to whom the patient may have been referred for treatment.
- 8) Provide and assess success of periodontal maintenance for patients with up to localized moderate chronic periodontitis.
- 9) Demonstrate knowledge of therapeutic and referral options for treatment of patients with moderate to severe chronic periodontitis.
- 10) Manage care of patients who are candidates for referral (those with moderate to severe chronic periodontitis, aggressive forms of periodontitis, mucogingival conditions, periodontal disease associated with systemic disease or periodontitis that is refractory to treatment) by effective communication and coordination of therapy with a periodontist when appropriate.

IV. Elements of Competency Examinations

The ability to make the judgment that a student is “competent” is based on a variety of measurements, some objective and others that are rather subjective. A key factor in the satisfaction of accreditation standards is that programs utilize outcomes assessments that are measurable to assess their competency statements. Examples of objective outcome assessments that are utilized by periodontal programs include daily grades and competency examinations. At the workshop, participants discussed the elements of a good competency examination. From an educational standpoint, a good competency examination should address a stated competency of the graduating dental student, for example, the student must be able to diagnose periodontal disease. These competency-based examinations are designed to be a “pass-fail” exercise.

In addition, the following parameters should be established and communicated to the student:

1) Requisites for taking the examination

e.g. fall of the senior year after successfully completing three periodontal examinations on patients with attachment loss.

2) Acceptable patient criteria

e.g. patient must have at least 20 teeth in occlusion and must have clinical attachment loss in at least two sextants, etc.

3) Who the examiners will be

e.g. only periodontists

4) Criteria that will be used to evaluate the student

e.g. probing depths must be ± 1 mm of examiner 95% of the time

5) Criteria for passing the examination

e.g. 75% score on the examination

6) Consequences of failing the exam

e.g. you will need to undergo remedial course work. You will have to work-up and diagnose one additional patient before retaking the exam.

V. Challenges Associated with Competency Examinations

Discussion during the 2001 Workshop identified specific challenges associated with the utilization of competency examinations. These included the following:

- 1) Finding the appropriate patient at the right time.** This is influenced by the patient pool, patient availability, student initiative as well as scheduling issues.
- 2) Deciding on an appropriate reward when a student successfully completes an examination.**
e.g. student can conduct the procedure with less supervision or no longer is required to perform the particular procedure.
- 3) Calibrating faculty.** There should be less variation among faculty if scoring of examination components is done on an "acceptable/unacceptable basis" as opposed to utilizing 1-10 scale.

Although uniform solutions to these challenges have not been identified, schools may be able to address them individually. The Academy feels that the benefits of competency assessment outweigh these challenges as implementing these measurements help to ensure that predoctoral students will graduate with adequate knowledge of the specialty of periodontics.

In addition, the difficulty of developing instruments necessary to measure the AAP competency statements that relate to the referral process has been identified. While a specific assessment tool for this competency has not been formulated, the Academy's Education Committee developed a document entitled "Guidelines for Referring Patients in Dental Schools" (pp 6-9). The intent of this document is to provide a framework upon which dental educators could design curriculum that would enhance the abilities of dental students in this area.



American Academy of Periodontology Guidelines for Referring Patients in Dental Schools

Background Information for Program Directors

A strong implication from the Sheps Center Report presented at the 1999 Educators Workshop was that referral habits and attitudes regarding periodontal referrals begin to develop in the dental school environment. Periodontists must be viewed as colleagues and supporters, and the value of collaborative care in dental therapy should be emphasized. Development of positive relationships among faculty, pre- and postdoctoral students are important to establishment of an effective referral system, beginning in the dental college environment and extending into private practice. The Report also indicated that there was a need for increased instruction in the referral process in the pre- and postdoctoral curriculum. The purpose of this document is to provide educators with guidelines for periodontal referral and for teaching positive referral relationships in the pre- and postdoctoral dental curriculum. These issues were addressed during the 1999 Educators Workshop, and the guidelines presented here represent concepts from both this workshop and discussions at the 1992 Predoctoral Workshop on the same topic.

The process of making a referral is somewhat dependent on the clinical teaching model at a particular school. One must keep in mind that there are schools, which utilize:

1. Block systems with the discipline taught by specialists;
2. Comprehensive care models with the discipline taught by specialists;
3. Comprehensive care models with the discipline taught by generalists.

Referral can typically take place at one of four time points during the management of a patient:

1. After the initial data collection;
2. At the time of the reevaluation;
3. During the course of restorative or other types of therapy, for example crown lengthening, mucogingival surgery,
4. During maintenance therapy.

Due to individual differences in treatment philosophy it would be difficult to establish universal criteria for referral based upon specific probing depths, attachment loss, inflammation, etc. Furthermore, there is a wide range of clinical teaching models utilized by the dental schools of the US and Canada, to say nothing of their various philosophies regarding the extent to which they allow students to manage these patients. Therefore, this document provides guidelines for referral based on periodontal diagnosis, severity and complexity of disease and patient management. Within any model, the Academy believes that the important issues are that periodontal programs have established criteria and a process for referral, and that pre- and postdoctoral students and faculty are educated in referral guidelines and practices. These recommendations are outlined below.

I. Recommendations Regarding Referral Guidelines

A. Reasons for Referral

Students should understand the reasons a general dentist (predoctoral student) refers a patient to a periodontist (postdoctoral student) and understand how this enhances their treatment and benefits the patient. Reasons for referral are focused on collaborative efforts to improve treatment for the patient and include the following:

- Concern for quality of patients' oral health care
- Management of advanced or complex cases, (i.e., to assist in defining prognosis and treatment plan and for the delivery of care)
- Delivery of therapy that the general dentist may not perform, (i.e., implant placement or surgical therapy)
- Enhancement of restorative/prosthetic results
- Systemic health or patient management issues, (i.e., need for intravenous sedation)
- Risk management considerations
- Patient appreciation of the need for and benefit of referral

B. Criteria for Referral

It is important that pre-and postdoctoral students understand the criteria for periodontal referral. In order to recognize the indications for referral, the predoctoral students must be able to properly diagnose periodontal diseases and understand the indications, limitations, and outcomes of nonsurgical and surgical forms of therapy. Ongoing periodontal evaluation of patients in the maintenance program is also important to teach students to identify progressive or recurrent disease that requires retreatment. Criteria for referral is based upon parameters related to case severity and complexity and should be fundamental and yet flexible enough to allow judgment based on science to be exercised. Case severity is based upon clinical and radiographic parameters and/or the PSR. Complexity is reflected by parameters such as: type of periodontal disease; medical status; other treatment needs; whether or not the disease is progressive; and patient management issues. Examples of patients that are candidates for referral include those with:

- Chronic periodontitis with moderate to advanced loss of support
- Aggressive forms of periodontal disease
- Periodontal disease associated with systemic conditions
- Mucogingival conditions,
- Refractory disease, and
- Patients requiring conscious sedation

In addition, certain medically compromised patients and patients with complex periodontal-restorative needs may be more appropriately treated by postdoctoral students.

C. Exposure of Dental Students to the Full Scope of Periodontal Therapy

Although periodontal therapy performed by predoctoral students is primarily nonsurgical in nature, exposure of predoctoral students to surgical forms of therapy through assisting, laboratory exercises, interactive case presentation seminars and, in some cases, performance of surgical therapy should increase students' awareness of the indications and potential outcomes of a broad scope of periodontal therapies. This should lead them to consider these therapeutic options for their patients.

D. Pre- and Postdoctoral Student Relationships

Positive relationships between pre- and postdoctoral students are important to the referral process. Involvement of the postdoctoral students in the education of the predoctoral students can enhance these relationships. This will be to the benefit of both groups, as well as to patient management. This might take the form of clinical teaching, seminars, study clubs, and/or lunch and learn sessions. Another opportunity for learning is through predoctoral students assisting on surgeries, where they can be exposed to therapeutic options and possibly take an active part in the surgical debridement or post-op visits.

II. Recommendations Regarding Teaching Referral Practices

A. Communication of Guidelines and Process

Pre- and postdoctoral students should receive instruction in referral practices to include criteria for referral and the process of making/accepting a referral. Faculty in other departments should be advised of these guidelines and the referral process.

B. Instruction Regarding Referral Process

Instruction regarding referral practices should include effective communication between the predoctoral student (general dentist) and postdoctoral student or faculty (specialist). Communications can be modeled after private practice. For the predoctoral student, this includes communication regarding the reason for referral and necessary patient information, such as history of treatment, modifying factors, charting and radiographs and treatment planning considerations. As part of the referral/consultation interaction, predoctoral students should be asked to articulate their clinical findings, perceived problems, restorative plan and other relevant factors. Referral forms specific to the initial examination, reevaluation and request for prescription surgeries would facilitate the process.

Postdoctoral students should be instructed in the proper "etiquette" of referral, for example, don't refer patients back to another student or general DDS, timely treatment, and written communications, such as letters acknowledging referral and status reports. It is of utmost importance that the postdoctoral students provide services in an expeditious manner. Suggested educational experiences for pre- and postdoctoral students include utilization of written referral communications, such as the use of referral forms and practice in letter writing.

C. Potential Mechanisms of Instruction

Potential mechanisms of instruction include lectures/seminars in referral criteria and process; treatment planning and case presentations that demonstrate interdisciplinary treatment; and role modeling in the clinic. Referral practices cannot be solely taught in the classroom; the interactions on the clinic floor among faculty general dentists, specialists, and students set an example for the predoctoral student. Periodontics faculty and postdoctoral students can utilize consultation-type interactions to teach and reinforce the referral process. Stronger relationships for pre- and postdoctoral students may be developed through models that mimic "real life" interactions between the general practitioner and periodontist. A number of scenarios are possible, depending upon the institution's teaching model and physical environment. One option might be to pair up postdoctoral periodontics student with a group of predoctoral dental students. The predoctoral students would then become part of the referral base for the postdoctoral student. Interdepartmental teaching in small group problem based seminars can also promote positive relationships, and case presentations to and by students serve to emphasize the benefits of the consultation-referral process.

D. Involvement of Private Practitioners

Private practice faculty can be a strong asset in this educational process. Involvement of private practice periodontists and general dentists who have had effective referral relationships may be helpful in presenting models of interaction from a private practice perspective.

VI. Examples of Competency Examinations

At the workshop, faculty shared various competency examinations currently used in their predoctoral periodontal programs to assess diagnosis and treatment planning, nonsurgical therapy, reevaluation/referral and maintenance therapy. In addition, some institutions utilize competency examinations at a more foundational level to test skills such as periodontal data collection, instrument sharpening and plaque control instructions. Many good examples of competency examinations were shared at the workshop with several similarities in tools across institutions. Representative examples are included in this document, which include five of the seven competency examinations used at the University of Colorado, an example of a mock board examination utilized at the University of Nebraska, and two competency examinations from Baylor College of Dentistry.

UNIVERSITY OF COLORADO SCHOOL OF DENTISTRY

This school currently utilizes seven examinations to assess clinical skills. These examinations are:

- 1) A Periodontal Data Acquisition Skill Exam designed to test the students' ability to measure and record standard periodontal measurements.
- 2) An Examination, Diagnosis, and Treatment Planning Competency Exam designed to test the students' ability to acquire and record data, identify etiologic and risk factors, make a diagnosis, establish objectives of therapy, estimate prognosis and determine a treatment plan.
- 3) A Periodontal Instrument Sharpening Skill Exam (not included in this document).
- 4) A Scaling and Root Planing Skill Examination designed to test the students' ability to remove subgingival deposits.
- 5) A Maintenance Competency Examination designed to test the students' ability to maintain a patient periodontally.
- 6) A Reevaluation/Referral Competency Examination designed to test the students' ability to evaluate the results of initial therapy, establish a post-reevaluation periodontal treatment plan and make an appropriate referral.
- 7) A Mock Board Examination (not included in this document).

Comments:

The seven clinical examinations utilized by the University of Colorado have components that address eight of the ten "Suitable Competencies in Periodontics for Graduating Dental Students" that were established by the AAP Education Committee in June 2000 (page 3). In accordance with the elements of good competency examinations (page 4), each of the examinations has a statement that addresses the objective of the examination. The criteria for taking the test are clearly articulated so that the student knows the protocol from the perspective of timing, patient criteria, etc. The grading criteria are listed for each examination. On some of the examinations, such as Data Acquisition, the criteria for grading are precisely defined (\pm 1 mm of the examiner). However, on most of the exams the criteria are more subjective, as in the Examination of Diagnosis Exam, which uses value judgments of "exceeds", "meets" or "fails to meet" expectations. Although there is no indication that there are prerequisite criteria that mandate that students have completed a certain number of procedures prior to taking a particular examination, time lines for completion of the examinations are included. With the exception of the Reevaluation/Referral Exam there are established protocols that address remediation in the event of failure.

NAME: _____ **DATE:** ____/____/____

UNIVERSITY OF COLORADO SCHOOL OF DENTISTRY

PERIODONTAL DATA ACQUISITION SKILL EXAM

Patient Name: _____

The objective of this skill examination is to assure that you have obtained the skills necessary to acquire the data that is utilized to complete a periodontal examination.

Examination Protocol:

1. This exam must be completed during the summer session of your second year.
2. You can take this examination with any member of the full or part-time perio faculty. You do not need to schedule this exam.
3. You must take this examination on a patient who manifests at least moderate periodontitis in one posterior quadrant and has probing depths in excess of 5mm on two teeth in that quadrant.
4. You will need to complete the chart below on a group of five teeth. The teeth to be examined will be assigned by the faculty member with whom you take the exam.
5. This is a pass/fail examination. If you make more than 6 errors you will fail the exam. Before you can retake the exam you must spend at least one 30-minute session working on examination skills with a member of the perio faculty.
6. Grading criteria:

Probing, recession and keratinized tissue: your measurements must be within 1 mm of the examiner. Recession measurements are to be recorded relative to the CEJ. Negative measurements reflect the distance the gingival margin is apical to the CEJ. A score of 0 means the gingival margin is at the CEJ. Mobility: clinically detectable mobility is recorded as a "+". If you can not discern mobility the tooth is scored as a "-." Furcations must be graded as being I, II, or III and the location noted.

PROBING DEPTHS

	#	#	#	#	#
<u>DF</u>					
<u>F</u>					
<u>MF</u>					
<u>DL</u>					
<u>L</u>					
<u>ML</u>					

RECESSION

	#	#	#	#	#
<u>DF</u>					
<u>F</u>					
<u>MF</u>					
<u>DL</u>					
<u>L</u>					
<u>ML</u>					

KERATINIZED TISSUE WIDTH

	#	#	#	#	#
<u>F</u>					

HORIZONTAL TOOTH MOBILITY

#	#	#	#	#

FURCATIONS

#	#	#	#	#

TOTAL ERRORS: _____

PASS FAIL

INSTRUCTOR _____ **DATE** ____/____/____

NAME: _____ **DATE:** ____/____/____

PATIENT'S NAME: _____

UNIVERSITY OF COLORADO SCHOOL OF DENTISTRY EXAMINATION, DIAGNOSIS, AND TREATMENT PLANNING COMPETENCY EXAMINATION

The objective of this competency examination is to determine if the student has the ability to evaluate the periodontium, arrive at a diagnosis, establish a prognosis, and formulate a treatment plan which is integrated with the patients other dental needs.

EXAMINATION PROTOCOL:

1. This examination should be taken during the fall semester of the third year.
2. Acceptable patients must manifest radiographic evidence of bone loss in at least two quadrants with associated probing depths of at least 5mm. There must be at least 18 erupted teeth. The patient cannot have had a comprehensive periodontal examination in the past 3 years. Current full mouth radiographs must be available (within the past 12 – 18 months).
3. This examination must be taken with a periodontist who is on the full or part-time faculty.
4. Before taking the examination check with the covering faculty that the patient meets the criteria for the examination.
5. Acquire all necessary data and completely fill in form 12a, Faculty Consult.
6. Grading will be on a pass/fail basis. A score of at least 52 is needed to pass.
7. Individuals who fail the exam will be required to remediate their failure with either Dr. Johnson or Stoller. This remediation may include a didactic assignment and/or a clinical evaluation of a patient.

	Possible Points	Student Assessment	Faculty Assessment
<u>Clinical Periodontal Exam</u>			
Probing Depths	3	_____	_____
Bleeding	3	_____	_____
Gingival Margin Position	3	_____	_____
Mucogingival Junction Position	3	_____	_____
Furcations	3	_____	_____
Mobility/Fremetus	3	_____	_____
<u>Faculty Consult (Form 12a)</u>			
Systemic Health	3	_____	_____
Chief Complaint	3	_____	_____
Past Dental History	3	_____	_____
Intraoral Exam (Non-periodontal)	3	_____	_____
Occlusion	3	_____	_____
Gingival; architecture	3	_____	_____
Color	3	_____	_____
Consistency	3	_____	_____
General Statement	3	_____	_____
<u>Radiographic Exam (Form 12a)</u>			
Patterns of Bone loss	3	_____	_____
Degree of Bone loss	3	_____	_____
Furcations	3	_____	_____
Root Form	3	_____	_____
Root Proximity	3	_____	_____
<u>Etiology/Risk Factors (Form 12a)</u>	3	_____	_____
<u>Diagnosis (Form 12a)</u>	3	_____	_____
<u>Objectives of Therapy (Form 12a)</u>	3	_____	_____
<u>Prognosis (Form 12a)</u>	3	_____	_____
<u>Periodontal/Restorative Treatment Plan (Form 12a)</u>	3	_____	_____
<u>Infection Control/Patient Management</u>	3	_____	_____

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Pass > 52

Fail ≤ 51

3 = exceeds expectations

2 = meets expectations

1 = fails to meet expectations

Faculty Signature

Date

FACULTY CONSULT: PERIODONTICS

1. **PURPOSE:** Provide diagnosis, etiology, prognosis and specific treatment procedures required for resolution of each periodontal-related problem.
2. This form should be used for patients with a diagnosis of periodontitis.

Patient Name	
Student Name	
Date	
Faculty Name	

Systemic Health (relevant to the patient's periodontal disease and/or treatment):
- Age/Sex:
Chief Complaint:
Past Dental History:
Intraoral Exam (non-periodontal soft tissue):
Dentition/Occlusion:
<input type="checkbox"/> Physiologic
<input type="checkbox"/> Pathologic: mobility; fremitus; excessive wear;
Gingiva: architecture;
color;
consistency;
General statement (re: probing, furcations, recession and keratinized tissue):
Radiographic Exam (patterns of bone loss, degree of bone loss, furcations, root form, root proximity,

FACULTY CONSULT: PERIODONTICS

(Page 2)

Etiology/Risk Factors

<ul style="list-style-type: none"> • Plaque Index _____ % • Plaque Retentive Features: <ul style="list-style-type: none"> a. calculus _____ b. iatrogenic dentistry _____ c. faulty tooth relationship _____ d. soft tissue deformity _____ e. pockets/furcations _____ f. caries _____ • Excessive Forces: <ul style="list-style-type: none"> a. parafunctional habits _____ b. missing teeth _____ c. tooth position _____ d. occlusal interferences _____ 	<ul style="list-style-type: none"> • Traumatic Oral Hygiene _____ • Inadequate Oral Hygiene _____ • Predisposing Factors: <ul style="list-style-type: none"> a. mouth breathing _____ b. systemic disease _____ c. drugs _____ d. endodontic involvement _____ e. hypersensitive teeth _____ f. nutrition _____ g. cigarettes _____ • Other _____
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Diagnosis (list tooth, sextants or arch)

Periodontitis: Chronic: Aggressive Arrested:

Mild	Moderate	Severe																		
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Occlusal Trauma: 1° 2°	Inadequate Crown Length for Restorative Purposes:
Inadequate Zone of Attached Gingiva:	Recession (esthetic problem):

Objectives in Therapy

<ul style="list-style-type: none"> <input type="checkbox"/> Control pain <input type="checkbox"/> Modify behavior <input type="checkbox"/> Remove supragingival irritants <input type="checkbox"/> Remove subgingival irritants <input type="checkbox"/> Eliminate inflammation <input type="checkbox"/> Reduce probing depth by: <ul style="list-style-type: none"> <input type="checkbox"/> establishing gingival shrinkage <input type="checkbox"/> improving gingival consistency <input type="checkbox"/> surgically created recession <input type="checkbox"/> new attachment (i.e., soft tissue) <input type="checkbox"/> new attachment (i.e., bone, PDL, cementum) 	<ul style="list-style-type: none"> <input type="checkbox"/> Increase zone of keratinized gingiva <input type="checkbox"/> Increase crown length <input type="checkbox"/> Alter tooth position <input type="checkbox"/> Control parafunctional habits <input type="checkbox"/> Minimize excessive or adverse forces on the teeth <input type="checkbox"/> Control effects of relatively normal forces on the teeth <input type="checkbox"/> Establish arch integrity <input type="checkbox"/> Improve esthetics <input type="checkbox"/> Restore carious teeth <input type="checkbox"/> Other: _____
---	---

Prognosis (general/case and specific/teeth)

Perio/Restorative Treatment Plan

Faculty Signature: _____	Fac. # _____
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Name: _____ Date: ___/___/___

UNIVERSITY OF COLORADO SCHOOL OF DENTISTRY

SCALING AND ROOT PLANING SKILL EXAMINATION

Patient name _____

The objective of this skill exam is to assure that you have obtained the skills necessary to debride teeth that have deposits of plaque, and calculus, and to remove stain if present.

EXAMINATION PROTOCOL:

1. This exam should be taken by the end of the spring semester of your third year.
2. This examination can be taken with any member of the full or part-time perio faculty.
3. The patient must have explorer detectable subgingival calculus on at least 10 tooth surfaces. At least 6 of the surfaces must be on posterior teeth.
4. Complete the calculus detection grid. Chart only pieces of calculus that have distinct up-down clicks in the "Det" section of the grid. Do not chart areas of root roughness, over hanging restorations and /or tooth defects.
5. Have the faculty member with whom you are taking the test grade this section.
6. If the patient is deemed to be acceptable you may then debride the teeth.

	#		#		#		#		#		#		#		#	
	Det	Rem														
D																
F																
M																
L																

GRADING CRITERIA

Calculus Detection

No errors	5 pts
One error	4 pts
Two errors	3 pts
Three errors	2 pts
Four errors	0 pts

Calculus Removal

No errors	6 pts
One error	5 pts
Two errors	4 pts
Three errors	3 pts
Four errors	0 pts

This is a pass/fail examination. You need at least 8 pts to pass.

Total Points _____

PASS FAIL

INSTRUCTOR _____ **DATE** ____/____/____

REMEDIATION

If you fail this examination you will need to schedule a one-on-one session with one of the hygienists who is a member of the division of periodontics faculty.

NAME: _____ DATE: ____/____/____

**UNIVERSITY OF COLORADO
SCHOOL OF DENTISTRY
MAINTENANCE COMPETENCY EXAMINATION**

The objective of this competency examination is to determine if the student has the ability to establish and carry out an appropriate maintenance program.

EXAMINATION PROTOCOL:

1. This examination should be by October 31 of the 4th year. The examination can be taken with any member of the full or part-time division of periodontics faculty (periodontist or hygienist).
2. Acceptable patients must have had an initial diagnosis of moderate to advanced periodontitis. They must have at least 16 teeth in their mouth.
3. The patient must have had at least two other maintenance visits while under your care.
4. You must check in with the faculty member who is administering the examination prior to initiating the maintenance visit.
5. Collect all essential data including any radiographs that, you feel is necessary.
6. Provide all appropriate therapies.

GRADING CRITERIA

GRADE

THE DATA COLLECTION WAS APPROPRIATE FOR A MAINTENANCE VISIT

necessary data was collected	3
there were some minor deficiencies in the data that was collected	2
there were some major deficiencies in the data that was collected	1

ACCURACY OF THE DATA COLLECTION

the data collection was very accurate	3
the data collection had some minor errors	2
the data collection had some major errors	1

REMOVAL OF DEPOSITS

the scaling, root planing and polishing was very well done	3
there were some supra and or subgingival deposits left	2
there were major deficiencies in the scaling, root planing and polishing	1

CASE MANAGEMENT AS DETERMINED FROM THE DENTAL CHART

the case has been well managed and the past dental records are superb	3
there are some minor deficiencies in the dental management of this case and/or the dental records	2
there are major deficiencies in either the dental care and/or the dental records	1

Total _____

PASS 8 – 12

FAIL 4 – 7

FACULTY: _____ DATE: _____

NAME: _____ DATE: ____/____/____

UNIVERSITY OF COLORADO SCHOOL OF DENTISTRY

REEVALUATION/REFERRAL COMPETENCY

The objective of this competency examination is to establish that the student is capable of evaluating the results of the non-surgical phase of periodontal therapy and making an appropriate phase II treatment plan.

Examination protocol

1. This examination must be taken with a periodontist. An acceptable patient is one who you treatment planned and debrided. The patient must have radiographic evidence of bone loss in at least two sextants. Probing depths at the time of the initial examination must have been 5mm or more in the areas with the bone loss. There must be at least 12 teeth in the mouth.
2. Collect all data that you feel is necessary to conduct the reevaluation. If you feel that there is a need to obtain additional radiographs do so.
3. Complete the "Periodontics Referral/Reevaluation" form letter.

Grading criteria	Grade
The data collected was appropriate to conduct the reevaluation.	
all necessary data was collected	3
there were some minor deficiencies in the data that was collected	2
there were major deficiencies in the data that was collected	1
Accuracy of the data collection.	
the data that was collected was very accurate.	3
the data that was collected had some minor errors	2
the data that was collected had some major errors	1
Appropriateness of doing the reevaluation	
all the criteria for doing a reevaluation have been met	3
one of the criteria has not been met	2
two of the criteria have not been met	1

(OVER)

Phase II decisions

the phase II decisions were excellent	3
the phase II decisions were good	2
the phase II decisions were poor	1

Grading Criteria

Pass 8 – 12

Fail 0 - 7

Faculty: _____ **Date:** ____/____/____

*Criteria for doing a reevaluation:

- Oral hygiene is optimal for the patient
- Scaling and root planing has been well done
- Phase I restorative factors have been addressed
- Occlusal problems if present have been managed
- Tissues have had time to heal

**UNIVERSITY OF COLORADO
PERIODONTICS REFERRAL/REEVALUATION**

Date: _____

Dear Dr. _____:

I performed a reevaluation examination for my patient _____
on ___/___/____. To date, I have provided the following periodontal therapy for this
patient:

Procedure	Date
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

At the present time the plaque index is ____% effective. The plaque index when I
initiated my treatment was ____%.

- In my opinion this patient is ready to be placed on a maintenance program.
The interval should be Q____ months.

- I am ready to begin Phase II restorative dentistry. At this time the phase II
restorative treatment is projected to include:

- 2 -

- In my opinion, there are some areas that have not adequately responded to phase
I periodontal therapy. I have recommended that _____ see you for a
surgical consultation:

In all likelihood, the following procedures will probably be necessary:

Gingivectomy	(tooth # _____)
Apically Positioned Flap/Osseous recontouring	(tooth # _____)
Guided tissue Regeneration	(tooth # _____)
Modified Widman Flap	(tooth # _____)
Gingival Graft	(tooth # _____)
Connective Tissue Graft	(tooth # _____)

In my opinion, there are some areas that have not adequately responded to phase I periodontal therapy. Although it is my feeling the surgical therapy would be useful in managing these areas, I do not feel that _____ is a good candidate for surgical treatment for the following reasons:

- economics preclude surgery
- patient does not want surgery
- patient's systemic health compromises patient's age
- patient's level of compliance is inadequate to assure a reasonable surgical outcome
- other _____

Thank you in advance for reviewing my findings.

Sincerely,

Faculty _____

DS II, III, IV

Date ____/____/____

UNIVERSITY OF NEBRASKA COLLEGE OF DENTISTRY

Several institutions utilize a mock board examination as a competency examination. The University of Nebraska College of Dentistry has developed a mock board examination that is based upon the periodontal portion of the Central Regional Dental Testing Service (CRDTS) examination.

Comments:

The criteria for patient selection, the conduct of the examination and the grading criteria are the same as those utilized by the CRDTS. The exam precisely identifies the type of patient required for the exam as well as the grading criteria. Students are required to pass one mock board examination each of their junior and senior years. If they fail, they must review errors with the faculty and repeat the examination on a different patient.

Student Name or Number _____

Date _____

Patient _____

Start Time _____

Clinical Measurements

Chart clinically detectable subgingival calculus on each of four tooth surfaces. (√ in section). Chart all calculus that is present and at least 15 surfaces on at least 6 and no more than 8 teeth. (one molar must be approximating another tooth, no more than 5 surfaces on mandibular incisors and 3 surfaces should probe 4-6 mm) **DISTAL SURFACE IS ALWAYS LEFT.**

Write Tooth # _____

Subgingival Deposits	D													M
----------------------	---	--	--	--	--	--	--	--	--	--	--	--	--	---

Assigned Teeth # _____

Probing Depth	Facial													M
	Lingual													

Recession	Facial													M
	Lingual													

Clinical Instrumentation

Assigned Teeth # _____

Score _____ %

Pass/Fail

Comments: _____

BAYLOR COLLEGE OF DENTISTRY

The two clinical examinations utilized by the Baylor College of Dentistry address all but three of the ten "Suitable Competencies in Periodontics for Graduating Dental Students" that were established by the AAP Education Committee in August 2000. These examinations include:

- 1) A "Diagnosis and Treatment Planning Progress Evaluation."
- 2) A Periodontal Scaling and Root Planing exam that assesses the student's ability to chart clinical features along with skills necessary to monitor tissue status and its response to therapy, calculus removal, root planing, polishing and tissue management.

Comments:

The criteria for patient selection, test taking and remediation are articulated to the student for each examination. It should be noted that the prerequisite criteria for taking an examination are listed, such as "the student must have completed two periodontal work-ups prior to taking the examination." The grading for diagnosis and treatment planning is accomplished by utilizing a subjective 0-10 scale.

BAYLOR COLLEGE OF DENTISTRY

D3 PERIODONTICS

PROGRESS EXAMINATIONS

NOTE: All Progress Examinations **MUST BE SCHEDULED BY THE STUDENT AS A PROGRESS EXAM** with the Undergraduate Clinic Coordinator. The student then advises his/her ACC of the appointment. It is the STUDENT'S RESPONSIBILITY to be sure that the procedure and patient have been scheduled as a Progress Exam.

I. Diagnosis and Treatment Planning Progress Examination (P-I)

A. Qualifying Criteria

Completion of a diagnostic work-up on two patients.

B. Progress Examination

1. Diagnostic work-up may be performed on your third periodontal patient. All work must be accomplished by the student (alone). For the exam, the student will be given a blank diagnostic work-up form, a periodontal charting form and the patient's FMX. The patient treatment record will not be available to the student. The exam is not timed. If the student does not complete the exam, he/she may return the forms to the examiner, and re-appoint the patient for a second visit, to complete the exam. The forms will be returned to the student at the second appointment, and the exam is then completed.

2. The patient **MUST:**

- a. Be a Patient of Record, and consulted as Type II or III
- b. Have a full-mouth series of radiographs
- c. Have a minimum of 24 teeth (4 molars)
- d. Have a written medical consultation PRIOR to the examination if necessary.

C. A grade of $\geq 75\%$ is considered passing. Failure of the Diagnosis and Treatment Planning Progress Examination will necessitate:

1. Remediation with the course director and completion of an additional Diagnostic work-up on another patient.
2. Retake the Diagnosis and Treatment Planning Progress Examination.

Patient: Last name, first name, middle initial	Date	Periodontal Diagnosis and Treatment Plan (P-I.1) Department of Periodontics - Baylor College of Dentistry The Texas A&M University System Health Science Center	
Record number	Birth date	Student: Last name, first name, middle initial	Student number

Medical & Dental History

Chief Complaint:

History of Present Periodontal Illness:

Medical History:

Dental History:

Personal History:

Family History:

Baseline Systemic Review & Consultations

BP:

Pulse:

Respiration:

Allergies	Gastrointestinal
Bones & Joints*	Genitourinary
Cardiorespiratory*	Hemodynamic-vascular
Endocrine	Neuromuscular
Eyes-Ears-Nose-Throat	Neuropsychiatric

*Antibiotic prophylaxis required?

Consultation Requested:

Date:	To:	Purpose:	Result:
Date:	To:	Purpose:	Result:

Radiological Findings:

(P-I.2)

Overall appearance of bone	Periradicular components
Alveolar bone	Dentition
Other findings:	

Analysis of Occlusion:

Angle's classification: R _____ L _____	Presence of fremitus in:
Wear facets on:	Opening deviation and TMJ findings:

Centric Prematurities: CR:CO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
LLE:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
RLE:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
Protrusive:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17

Diagnosis & Prognosis:

Etiologic factors
 Primary: _____
 Secondary: _____

Diagnosis: _____ **Case type (circle):** I II III IV

Prognosis: G - good F - fair Q - questionable H - hopeless																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
Overall prognosis:																

Periodontal Treatment Plan

(P-I.3)

1. Systemic Phase

2. Hygienic Phase

Re-evaluation

3. Corrective Phase (Surgical/Restorative)

4. Supportive Periodontal Therapy / Maintenance Phase.

- | | | | |
|------|------------|-------------|-------|
| V. | Etiology: | Five Points | _____ |
| | Primary | | |
| | Secondary | | |
| VI. | Diagnosis: | Five Points | _____ |
| VII. | Prognosis: | Five Points | _____ |

PART TWO: PERIODONTAL CHARTING 50 Points

The student will perform a complete periodontal examination with appropriate charting. The following teeth will be scored for grading purposes: #3, 9, 12, 19, 25, 28 (36 sites). If #19 is missing, select another molar for scoring. Assign a score for each component to be assessed:

Probing Depth:	Scored if 2mm's or greater difference	_____
	0 - 1 sites = 14	
	2 - 3 sites = 11	
	4 - 5 sites = 9	
	6 - 7 sites = 7	
	> 7 sites = 0	

CAL:	Scored if 2mm's or greater difference	_____
	0 - 1 sites = 14	
	2 - 3 sites = 11	
	4 - 5 sites = 9	
	6 - 7 sites = 7	
	> 7 sites = 0	

Bleeding on Probing:	Presence or Absence	_____
	> 2/3 Correct = 2	
	1/3 to 2/3 Correct = 1	
	< 1/3 Correct = 0	

Suppuration:	Presence or Absence	_____
	Recorded Appropriately = 2	
	Recorded Inappropriately = 0	

Furcation Inv.: Evaluate 4 Molars _____

- 0 - 1 sites = 8
- 2 - 3 sites = 7
- 4 - 5 sites = 6
- > 5 sites = 0

Mobility: Six Measurements (Test Teeth) _____

- 0 Incorrect = 8
- 1 Incorrect = 7
- 2 Incorrect = 6
- 3 Incorrect = 5
- > 3 Incorrect = 0

Mucogingival Defects: Presence or Absence _____

- Recorded Appropriately = 2
- Recorded Inappropriately = 0

Score – Part One = _____

Score – Part Two = _____

Score _____

A grade of 75% or higher is considering passing. A failure will necessitate repeating the competency examination.

BAYLOR COLLEGE OF DENTISTRY

D3 PERIODONTICS

PROGRESS EXAMINATIONS

II. Scaling and Root Planing Progress Examination (P-II)

A. Qualifying Criteria

1. Completion of eight quadrants of scaling and root planing (4341).
2. Completion of 4 prophylaxis (1110, 1205).

B. Progress Examination

1. All work is to be accomplished by the student alone. Ultrasonic instrumentation may be used on this examination.
2. The patient **MUST:**
 - a. Be a patient of record
 - b. Have a full-mouth series of radiographs
 - c. Have at least six teeth in the quadrant, with one molar in contact with another posterior tooth in the quadrant.
 - d. **Have At least one (1) sulcus/pocket depth of four (4) mm or greater on at least three (3) of the teeth in the quadrant.**
 - e. **Have a minimum of eight (8) surfaces of readily demonstrable calculus (defined as explorer detectable, heavy ledges) must be present. At least four (4) surfaces of the calculus must be on posterior teeth.**

Step 1: Complete Periodontal Worksheet for grade.

Step 2: Complete Treatment (Scaling, Root Planing and Polish) for grade.

3. Passing level for this examination is 75%

PATIENT'S NAME: _____

STUDENT NAME & NUMBER: _____

I. TOOTH SELECTION

II. CLINICAL ASSESSMENT (40 points)

ASSESSMENT ERRORS

A	TEETH IN QUADRANT:	#	#	#	#	#	#	#	#
B	CALCULUS ERRORS								
C	POCKET DEPTH ERRORS								
D	GINGIVAL APPEARANCE ERRORS								
E	MOBILITY ERRORS								
F	FACIAL RECESSION ERRORS								
G	MUCO-GINGIVAL DEFECT ERRORS								
H	FURCATION ERRORS								
I	HORIZONTAL BONE LOSS ERRORS								
J	VERTICAL BONE LOSS ERRORS								

III. TREATMENT

TREATMENT ERRORS

TEETH IN QUADRANT:	#	#	#	#	#	#	#	#	#
	D	D	D	D	D	D	D	D	D
	F	F	F	F	F	F	F	F	F
	M	M	M	M	M	M	M	M	M
	L	L	L	L	L	L	L	L	L

IV. SCORE

CLINICAL ASSESSMENT	POINTS	CLINICAL ASSESSMENT ERRORS
TREATMENT	POINTS	TREATMENT ERRORS

FINAL GRADE

**BAYLOR COLLEGE OF DENTISTRY
SCORING CRITERIA
PERIODONTICS
100 Points**

CLINICAL ASSESSMENT: (40 POINTS)

TREATMENT (60 POINTS)

CLINICAL ASSESSMENT			TREATMENT		
ASSESSMENT ERRORS	PERCENTAGE OF POINTS RECEIVED	POINTS	REMAINING CALCULUS	PERCENTAGE OF POINTS RECEIVED	POINTS
0-1 errors	100.00%	40	0-1 pieces	100.00%	60
2 errors	95.00%	38	2 piece	90.00%	54
3 errors	90.00%	36	3 pieces	80.00%	48
4 errors	85.00%	34	4 pieces	70.00%	42
5 errors	80.00%	32	5 pieces	60.00%	36
6 errors	75.00%	30	6 pieces	50.00%	30
7 errors	70.00%	28	7 pieces	40.00%	24
8 errors	60.00%	24	8 pieces	30.00%	18
9 errors	50.00%	20	9 pieces	20.00%	12
10 errors	40.00%	16	10 pieces	10.00%	6
11 errors	30.00%	12	11-12 pieces	0%	0
12 errors	20.00%	8			
13 errors	10.00%	4			
14 or more	0%	0			