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FOURTH YEAR CLINICAL APPENDIX

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TABLE OF CONTENTS

Each section contains the UTDB competencies and standards of care for each discipline of dentistry.

Pediatric Dentistry Clinic (4001)	5
Endodontics Clinic (4002)	8
Radiology Clinic (4003)	11
Community Dentistry Clinic (4004)	14
Prosthodontics Clinic (4005)	17
Operative Dentistry Clinic (4006)	20
Oral Surgery Clinic (4007)	23
Periodontics Clinic (4008)	25
Orthodontics Clinic (4011)	27
Assessment, Diagnosis, and Treatment Planning Clinic (4012)	41
Urgent Care Clinic (4013)	43
Clinical Practice II (4014)	45

The following are the competencies that relate to pediatric and adolescent patients:

Primary Competencies

IV. Patient Assessment (for the pediatric patient)

1. Identify a patient's chief complaint, general needs and expectations.
2. Obtain patient data adequate to provide dental treatment.
3. Perform a clinical examination.
4. Assess need for and select appropriate radiographs required for diagnosis.
5. Obtain clinical radiographic and other diagnostic information and procedures.
6. Recognize the normal range of clinical and radiographic findings and deviations that require monitoring or management.
7. Recognize predisposing and etiologic factors that require intervention to prevent disease.
8. Interpret findings from the history, clinical and radiographic examinations, and other diagnostic procedures.
9. Obtain medical and dental consultations when appropriate.
10. Integrate subjective and objective clinical findings in the formulation of the diagnosis.
11. Evaluate the prognoses of various treatment options.

V. Treatment Planning

1. Formulate an individual, comprehensive, sequenced treatment plan using diagnostic and prognostic information from the comprehensive assessment of the patient.
2. Discuss etiologies, treatment alternatives, prognoses and preventive strategies with the patient; educate the patient so he/she can participate in the management of his/her own care.
3. Develop, implement and modify a sequenced treatment plan considering the patient's goals, values, concerns and special needs.
4. Identify the need for and manage timely referrals when appropriate.

VI. Establishment and Maintenance of a Healthy Dental Patient

1. Recognize and manage medical emergencies.
2. Manage dental emergencies.
3. Manage patients with pain and anxiety associated with dental procedures.
4. Apply principles of behavioral sciences as they pertain to patient-centered approaches for promoting, improving and maintaining oral health.
5. Perform and evaluate preventive therapies.
6. Restore defective teeth.
7. Manage patients with periodontal diseases and conditions.
8. Manage patients with pulpal and periradicular diseases.
10. Manage patients with oral mucosal disorders.
11. Manage patients requiring oral surgical procedures.
12. Manage patients requiring orthodontic treatment or space maintenance.
15. Manage a diverse patient population and have the interpersonal and communication skills to function successfully in a multi-cultural work environment.
16. Select and administer/prescribe appropriate pharmacological agents in the treatment of patients with dental disease.
17. Anticipate, prevent and manage complications of dental treatment.

18. Periodically assess and monitor the patient's preventive care.

Secondary Competencies

I. Principles of Professionalism, Ethics and the Law

1. Provide humane, ethical and compassionate care to all patients.
2. Continuously analyze patient treatment outcomes for improvement of patient care.
3. Communicate effectively with peers, other professionals, staff, patients or guardians and the public at large.
4. Recognize the role of lifelong learning and self-assessment in maintaining competency.
5. Apply the process of informed consent that meets ethical and legal responsibilities.
6. Apply ethical, legal and regulatory concepts to the provision and/or support of oral health care services.
7. Apply the principles of ethical reasoning and professional responsibility as they pertain to patient care and practice management.

II. Information Management and Critical Thinking

1. Apply critical thinking and problem solving skills in the comprehensive care of patients.

III. Practice Management Philosophies

1. Perform and monitor infection control and environmental safety measures according to current standards.
4. Establish and maintain patient records.

STANDARDS OF CARE

1. The pediatric patient will be treated in a professional manner at all times.
2. The pediatric patient's chief complaint and the parent's/guardian concerns, and expectations will be considered.
3. The pediatric patient's dental and medical histories will be considered to identify predisposing conditions and medications that may affect the prognosis, progression, and treatment of oral disease.
4. The pediatric patient will receive a physical evaluation, as indicated by the patient's history and presentation, to include evaluation of extra-oral and intra-oral tissues and structures.
5. The pediatric patient will receive adjunctive diagnostic evaluation, such as radiographs and laboratory studies, as indicated from the physical evaluation and presentation.
6. When radiographs are obtained, they will be current, of diagnostic quality, and based on the diagnostic needs of the pediatric patient. The guidelines of the AAPD will be used. An interpretation of radiographs will be included in the patient's record.
7. The pediatric patient will be referred to other dental and/or healthcare professionals when determined to be in the best interest of the patient, or at the parent/guardian request.

8. A process of differential diagnosis will be utilized when evaluating oral conditions and developing a treatment plan.
9. The behavioral, psychological, anatomical, developmental and physiological limitations of the pediatric patient will be considered when developing a treatment plan.
10. The parent/guardian of the pediatric patient will be advised of all diagnoses, recommended treatment, other treatment options, if any, and the benefits, prognosis, limitations and risks associated with treatment and the probable consequences of no treatment.
11. The parent and/or guardian of the pediatric patient will receive information, as appropriate, regarding prevention and early detection of oral diseases through child and parent/guardian education in preventive oral health practices, including oral hygiene instructions.

The standard of care for a graduating Fourth Year student will be equivalent to the standard that a prudent general dentist is expected to apply when treating a pediatric patient. Guidelines for the standard of care in Pediatric Dentistry can be found in the *Reference Manual 1998-99 of the American Academy of Pediatric Dentistry*.

Upon completion of this course, the student must be able to demonstrate competence in the following areas:

Primary Competencies

- I. Principles of Professionalism, Ethics and the Law
 - 1. Provide humane, ethical compassionate care to all patients.
- III. Practice Management Philosophies
 - 1. Perform and monitor infection control and environmental safety measures according to current standards.
 - 4. Establish and maintain patient records.
- VI. Establishment and Maintenance of a Health Dental Patient
 - 8. Manage patients with pulpal and periradicular diseases.

In addition, this course may provide the student an opportunity to demonstrate competence in the following areas.

Secondary Competencies

- I. Principles of Professionalism, Ethics and the Law
 - 2. Continuously analyze patient treatment outcomes for improvement of patient care.
 - 3. Communicate effectively with peers, other professionals, staff, patients or guardians and the public at large.
 - 5. Apply the process of informed consent that meets ethical and legal responsibilities.
 - 6. Apply ethical, legal and regulatory concepts to the provision and/or support of oral health care services.
 - 7. Apply the principles of ethical reasoning and professional responsibility as they pertain to patient care and practice management.
- III. Practice Management Philosophies
 - 3. Understand the basic principles and philosophies of practice management to function successfully as the leader of the oral health care team in different settings.
- IV. Patient Assessment
 - 1. Identify a patient's chief complaint, general needs and expectations.
 - 2. Obtain patient data adequate to provide dental treatment.
 - 3. Perform a clinical examination.
 - 4. Assess need for and select appropriate radiographs required for diagnosis.
 - 5. Obtain clinical radiographic and other diagnostic information and procedures.
 - 6. Recognize the normal range of clinical and radiographic findings and deviations that require monitoring or management.
 - 7. Recognize predisposing and etiologic factors that require intervention to prevent disease.

8. Interpret findings from the history, clinical and radiographic examination, and other diagnostic procedures.
9. Obtain medical and dental consultations when appropriate.
10. Integrate subjective and objective clinical findings in the formulation of the diagnosis.
11. Evaluate the prognoses of various treatment options.

V. Treatment Planning

2. Discuss etiologies, treatment alternatives and prognoses with the patient and educate him/her so he/she can participate in the management of his/her own care.
3. Develop, implement and modify a sequenced treatment plan considering the patient's goals, values, concerns and special needs.
4. Identify the need for and manage timely referrals when appropriate

VI. Establishment and Maintenance of a Healthy Dental Patient

1. Recognize and manage medical emergencies.
2. Manage dental emergencies.
3. Manage patients with pain and anxiety associated with dental procedures.
4. Apply principles of behavioral sciences as they pertain to patient-centered approaches for promoting, improving and maintaining oral health.
5. Perform and evaluate preventive therapies.
6. Restore defective teeth.
7. Manage patients with periodontal diseases and conditions.
9. Manage patients with occlusal and temporomandibular disorders.
10. Manage patients with oral mucosal soft tissue diseases.
14. Manage dental care for patients with special care needs.
15. Manage a diverse patient population and have the interpersonal and communication skills to function successfully in a multi-cultural work environment.
16. Select and administer or prescribe appropriate pharmacological agents in the treatment of patients with dental disease.
17. Anticipate, prevent and manage complications of dental treatment.

STANDARDS OF CARE

1. Endodontic Examination and Diagnosis

An adequate medical and dental history with contemporaneous visual and radiographic examination provides basic information. Some indicated tests such as periodontal probings, thermal, electrical, percussion, palpation, and mobility should be accomplished. Additional transillumination, observation of occlusal discrepancies and bacteriologic testing may be indicated. It may be necessary or advisable to take radiographs from more than one angle to gain a better idea of the morphology of the tooth or teeth in question. It may also be necessary to take bitewing radiographs, occlusal plane films and radiographs of the contralateral and opposing teeth.

2. Endodontic Treatment Planning, Records and Recalls

Appropriate treatment is predicated on an accurate analysis of all diagnostic information. Treatment planning should include the determination of the strategic importance of the tooth or teeth considered for treatment and the prognosis of treatment. Other factors such as excessively curved canals, periodontal

disease, occlusion, tooth fractures, calcified or occluded canals, restorability and teeth with unusual or abnormal canal morphology should be considered.

Treatment records should include the chief complaint(s) or patient comments; the clinical impression; the results of diagnostic tests and clinical examination; the diagnosis and treatment; the required preoperative, interoperative and postoperative radiographs; and the follow-up radiographs. It is recommended that records should include a signed patient informed consent form and patient commentaries or complaints before, during and after treatment.

Endodontic care includes the evaluation of the patient's postoperative response to the clinical procedures. Endodontic providers should encourage patients to return at intervals appropriate for the procedures undertaken to allow clinical evaluation.

3. Nonsurgical Endodontic Treatment

Endodontic therapy for permanent teeth involves chemical and mechanical treatment, on a biological basis, of the root canal system to eliminate pulpal and periradicular disease and to promote healing and repair of periradicular tissues. The debridement and shaping of the canal system is followed by obturation with a biologically acceptable nonresorbable semi-solid or solid core root canal filling material.

All canals are shaped, cleansed and disinfected using an aseptic technique. Proper access is dictated by the size and shape of the pulp chamber as well as by the tooth position in the arch. All caries should be removed. The entire roof of the chamber should be removed. Debridement, enlargement and disinfection of all canals, and obturation are accomplished under rubber dam isolation if possible. When indicated, microbial culture and sensitivity determinations may be used. Obturation is the three-dimensional filling of the entire root canal system as close to the cemento-dentinal junction as possible. Minimal amounts of root canal sealers, which have been demonstrated to be biologically compatible, are used in conjunction with the core filling material to establish and adequate seal.

It is recognized that root canal instruments will occasionally fail due to manufacturing deficiencies, which are beyond the control of the practitioner. Recognizing this possibility, it is recommended that canal instruments be made of biocompatible materials, such as stainless steel. Further, when instrument failure does occur in a root canal, the remainder of the accessible root canal space should be sealed with a biologically acceptable nonresorbable semi-solid or solid core root canal filling material. The patient must be informed and documentation placed in the patient's permanent record.

Paraformaldehyde-containing pastes or filling materials have been shown to be unsafe and are not recommended for use. Use of paraformaldehyde-containing materials for root canal obturation is below the standard of care for endodontic treatment.

*Adapted from *Guide to Clinical Endodontics* published by the American Association of Endodontists, copyright 2004 and the *Appropriateness of Care and Quality Assurance Guidelines* published by the American Association of Endodontists, copyright 1994.

I. Principles of Professionalism, Ethics and the Law

1. Provide humane, ethical and compassionate care to all patients.
2. Continuously analyze patient outcomes for improvement of patient care.
3. Communicate effectively with peers, other professionals, staff, patients or guardians and the public at large.
4. Recognize the role of lifelong learning and self-assessment in maintaining competency.
5. Apply the process of informed consent that meets ethical and legal responsibilities.
6. Apply ethical, legal and regulatory concepts to the provision and/or support of oral health care services.
7. Apply the principles of ethical reasoning and professional responsibility as they pertain to patient care and practice management.

II. Information Management and Critical Thinking

1. Apply critical thinking and problem solving skills in the comprehensive care of patients.
2. Apply information technology resources in contemporary dental practice.

III. Practice Management Philosophies

1. Perform and monitor infection control and environmental safety measures according to current standards.
2. Evaluate different models of oral health care management and delivery.
3. Understand the basic principles and philosophies of practice management and have the skills to function successfully as the leader of the oral health care team.
4. Establish and maintain patient records.

IV. Patient Assessment

1. Assess need for and select appropriate radiographs required for diagnosis.
2. Obtain clinical radiographic and other diagnostic information and procedures.
3. Recognize the normal range of clinical and radiographic findings and deviations that require monitoring or management.
4. Interpret findings from the history, clinical and radiographic examination, and other diagnostic procedures.

V. Treatment Planning

1. Formulate an individual, comprehensive, sequenced treatment plan using diagnostic and prognostic information from the comprehensive assessment of the patient.
2. Identify the need for and manage timely referrals when appropriate.

1. Prescription for Radiographs
Radiographs need to be ordered following the current FDA^{1,2} guidelines for prescribing dental radiographs. The guidelines have been recommended by the American Dental Association.^{3,4} A summary of these guidelines is listed as an Appendix in the Dental Branch Clinic Manual.
2. Infection Control
Published infection control guidelines are available for dental radiographic procedures⁵, that have been extracted from the latest CDC Guidelines⁶ and other related references. These guidelines are incorporated in the Dental Branch Infection Control Manual⁷ and are part of routine infection control procedures in the Dental Branch Radiology Clinic.
3. Radiographic Technique
Optimum diagnostic radiographic quality incorporates the following features⁸.
 - A. Complete areas of interest on the image:
 1. Full images of roots with at least 2.0 mm of periapical bone
 2. Bitewing radiographs demonstrate each proximal surface at least once
 3. Entire pathologic conditions with surrounding normal bone. Supplemental intraoral and extraoral views may be necessary to view the full extent of a lesion
 - B. Minimal distortion
This is accomplished primarily with proper film positioning and using the correct angulation.
 - C. Optimum density and contrast
Close attention to proper exposure factors (i.e., mA, kVp and exposure time) and film processing have the greatest impact
4. Interpretation of Radiographs
A systematic and routine viewing pattern should be formulated to assure that all areas of an image are routinely observed. A comprehensive description of a noted lesion should include.
 - A. Location
 - B. Periphery and Shape
 - C. Internal Structure (Contents)
 1. Radiolucent
 2. Radiopaque
 3. Mixed
 - D. Effect and association to normal anatomic structures - helps localize and determine origins extent and aggressivity of lesions

References

- 1 U.S. Department of Health and Human Services. *The selection of patients for dental radiographic examinations.* (Revised 2004) HHS Publ 2004 <<http://www.fda.gov/cdrh/radhth/adaxray-1.html>>.
- 2 U.S. Department of Health and Human Services. *The selection of patients for x-ray examinations: dental radiographic examinations,* HHS Publ FDA 88-8273, Rockville, Md., 1987.

- 3 <<http://www.ada.org/prof/resources/pubs/adanews/adanewsarticle.asp?articleid=1230>>
- 4 *Council on Dental Materials, Instruments, and Equipment; Recommendations in radiographic practices; an update, 1988, J Am Dent Assoc 118:115-117, 1989.*
- 5 *Thomas LP, Abramovitch K. Infection Control for Dental Radiographic Procedures. Tex Dent J 122(2):184-188, 2005.*
- 6 *Dental Branch Infection Control Manual. http://www.db.uth.tmc.edu/clinic-pat/Documents/Clinic_Manual.pdf*
- 7 *White SC and Pharoah MJ (editors) Oral Radiology: Principles and Interpretation, Fifth Ed. Chapters 6, 8, 9 and 20 Mosby, St. Louis, 2004, pp. 105-107, 121-209.*
- 8 *White SC and Pharoah MJ (editors) Oral Radiology: Principles and Interpretation, Fifth Ed. Chapter 15, Mosby, St. Louis, 2004, pp. 281-296.*

Primary Competencies

- I. Principles of Professionalism, Ethics and the Law
 - 1. Provide humane, ethical and compassionate care to all patients.
 - 7. Apply the principles of ethical reasoning and professional responsibility as they pertain to patient care and practice management.
- II. Information Management and Critical Thinking
 - 1. Apply critical thinking and problem solving skills in the comprehensive care of patients.
- III. Practice Management Philosophies
 - 2. Evaluate different models of oral health care management and delivery.
 - 3. Understand the basic principles and philosophies of practice management and have the skills to function successfully as the leader of the oral health care team.
- IV. Patient Assessment
 - 1. Identify a patient's chief complaint, general needs and expectations.
 - 2. Obtain patient data adequate to provide dental treatment.
 - 8. Interpret findings from the history, clinical and radiographic examinations, and other diagnostic procedures.
 - 10. Integrate subjective and objective clinical findings in the formulation of the diagnosis.
 - 11. Evaluate the prognoses of various treatment options.
- V. Treatment Planning
 - 2. Discuss etiologies, treatment alternatives, prognoses and preventive strategies with the patient; educate the patient so he/she can participate in the management of his/her own care.
 - 3. Develop, implement and modify a sequenced treatment plan considering the patient's goals, values, concerns and special needs.
- VI. Establishment And Maintenance of a Healthy Dental Patient
 - 4. Apply principles of behavioral science as they pertain to patient-centered approaches for promoting, improving, and maintaining oral health.
 - 14. Manage dental care for patients with special care needs.
 - 15. Manage a diverse patient population and have the interpersonal and communication skills to function successfully in a multi-cultural work environment.

Secondary Competencies

- I. Principles of Professionalism, Ethics, and the Law
 - 2. Continuously analyze patient treatment outcomes for improvement of patient care.
 - 3. Communicate effectively with peers, other professionals, staff, patients or guardians, and the public at large.

4. Recognize the role of lifelong learning and self-assessment in maintaining competency.
5. Apply ethical, legal and regulatory concepts to the provision and/or support of oral health services.

III. Practice Management Philosophies

1. Perform and monitor infection control and environmental safety measures according to current standards.
4. Establish and maintain patient records.

IV. Patient Assessment

5. Obtain clinical radiographic and other diagnostic information and procedures.
6. Recognize the normal range of clinical radiographic findings and deviations that require monitoring or management.
9. Obtain medical and dental consultations when appropriate.

V. Treatment Planning

1. Formulate an individual comprehensive, sequenced treatment plan using diagnostic and prognostic information from the comprehensive assessment of the patient.
4. Identify the need for and manage timely referrals when appropriate.

VI. Establishment and Management of a Healthy Dental Patient

1. Recognize and manage medical emergencies.
2. Manage dental emergencies.
3. Manage patients with pain and anxiety associated with dental procedures.
5. Perform and evaluate preventive therapies.
16. Select and administer/prescribe appropriate pharmacological agents in the treatment of patients with dental disease.

STANDARDS OF CARE

The following standards apply to the extra-mural clinical rotations and the Medically Complex Patient/DAU Clinic.

1. The patient will be treated in a professional manner at all times.
2. The patient's chief complaint, concerns and expectations will be addressed.
3. The patient's dental and medical histories will be considered to identify predisposing conditions and medications that may affect the prognosis, progression and treatment of oral disease.
4. The patient will receive a clinical and appropriate physical evaluation, as indicated by the patient's history and presentation, to include evaluation of extra-oral and intra-oral tissues and structures.
5. The patient will receive adjunctive diagnostic evaluation, such as radiographs and laboratory studies, as indicated from the clinical and physical evaluation and presentation.
6. When radiographs are obtained, they will be based on the diagnostic needs of the patient and of diagnostic quality. An interpretation of radiographs will be included in the patient's record.

7. The patient will be referred to other dental and/or healthcare professionals when determined to be in the best interest of the patient, or at the patient's request.
8. A process of differential diagnosis will be utilized when evaluating oral conditions and developing a treatment plan.
9. The behavioral, psychological, anatomical, developmental and physiological limitations of the patient will be considered when developing a treatment plan.
10. The patient will be advised of diagnosis, recommended treatment, treatment options, if any, and the benefits, prognosis, limitations and risks associated with those treatments, as well as the probable consequences of no treatment.
11. The patient will receive appropriate information regarding prevention and early detection of oral diseases through patient education in preventive oral health practices, including oral hygiene instructions.
12. Any treatment performed will be with the written approval of the attending dentist and concurrence of the patient. If the patient insists upon treatment not considered by the attending dentist to be beneficial for the patient, the school may decline to provide treatment.
13. Medications will be prescribed, modified and/or administered for patients as appropriate.
14. The patient's medical history, vital signs, diagnoses, and treatment plan will be reviewed and updated, as indicated, at each treatment appointment.

Documentation of all examinations, diagnoses, treatment provided, counseling, recommended preventive measures and consultations with and referrals to other health care professionals, will be included in the patient's dental record.

Primary Competencies

I. Principles of Professionalism, Ethics and the Law

1. Provide humane, ethical and compassionate care to all patients.
2. Continuously analyze patient treatment outcomes for improvement of patient care.
3. Communicate effectively with peers, other professionals, staff, patients or guardians and the public at large.
4. Recognize the role of lifelong learning and self-assessment in maintaining competency.
5. Apply the process of informed consent that meets ethical and legal responsibilities.
6. Apply ethical, legal and regulatory concepts to the provision and/or support of oral health care services.
7. Apply the principles of ethical reasoning and professional responsibility as they pertain to patient care and practice management.

II. Information Management and Critical Thinking

1. Apply critical thinking and problem solving skills in the comprehensive care of patients.
2. Apply information technology resources in contemporary dental practice.

III. Practice Management Philosophies

1. Perform and monitor infection control and environmental safety measures according to current standards.
2. Evaluate different models of oral health care management and delivery.
3. Understand basic principles and philosophies of practice management and have the skills to function successfully as the leader of the oral health care team.
4. Establish and maintain patient records.

IV. Patient Assessment

1. Identify a patient's chief complaint, general needs and expectations.
2. Obtain patient data adequate to provide dental treatment.
3. Perform a clinical examination.
4. Assess need for and select appropriate radiographs required for diagnosis.
5. Obtain clinical radiographic and other diagnostic information and procedures.
6. Recognize the normal range of clinical and radiographic findings and deviations that require monitoring or management.
7. Recognize predisposing and etiologic factors that require intervention to prevent disease.
8. Interpret findings from the history, clinical and radiographic examinations, and other diagnostic procedures.
9. Obtain medical and dental consultations when appropriate.
10. Integrate subjective and objective clinical findings in the formulation of the diagnosis.
11. Evaluate the prognoses of various treatment options.

V. Treatment Planning

1. Formulate an individual, comprehensive, sequenced treatment plan using diagnostic and prognostic information from the comprehensive assessment of the patient.

2. Discuss etiologies, treatment alternatives, and prognoses and preventive strategies with the patient; educate the patient so he/she can participate in the management of his/her own care
3. Develop, implement and modify a sequenced treatment plan considering the patient's goals, values, concerns and special needs.
4. Identify the need for and manage timely referrals when appropriate.

VI. Establishment and Maintenance of a Healthy Dental Patient

1. Recognize and manage medical emergencies.
2. Manage dental emergencies.
3. Manage patients with pain and anxiety associated with dental procedures.
4. Apply principles of behavioral sciences as they pertain to patient-centered approaches for promoting, improving and maintaining oral health.
5. Perform and evaluate preventive therapies.
6. Restore defective teeth.
7. Manage patients with periodontal diseases and conditions
8. Manage patients with pulpal and periradicular diseases.
9. Manage patients with occlusal disorders.
10. Manage patients with oral mucosal disorders.
11. Manage patients requiring oral surgical procedures.
12. Manage patients requiring orthodontic treatment or space maintenance.
13. Manage patients with partial or complete edentulous areas.
14. Manage dental care for patients with special care needs.
15. Manage a diverse patient population and have the interpersonal and communication skills to function successfully in a multi-cultural work environment.
16. Select and administer/prescribe appropriate pharmacological agents in the treatment of patients with dental disease.
17. Anticipate, prevent and manage complications of dental treatment.
18. Periodically assess and monitor the patient's preventive care.

STANDARDS OF CARE

These Standards are established to represent the quality of patient treatment in the UT Dental Branch at Houston. (Written documentation should reflect these Standards.)

1. The patient will be treated in a professional manner at all times.
2. The patient's dental and medical histories will be considered to identify predisposing conditions and medications that may affect the prognosis, progression, and treatment of oral disease.
3. The patient will receive a clinical and appropriate physical evaluation, as indicated by the patient's history and presentation, to include evaluation of extra-oral and intra-oral tissues and structures.
4. The behavioral, psychological, anatomical, developmental and physiological limitations of the patient will be considered when developing a treatment plan.
5. The patient will be advised of diagnoses, recommended treatment, treatment options, if any, and the benefits, prognosis, limitations and risks associated with those treatments, as well as the probable consequences of no treatment.
6. Medications will be prescribed, modified, and/or administered for patients as appropriate.

7. The patient will receive appropriate information for prevention of oral disease and maintenance of oral health.

Primary Competencies

I. Principles of Professionalism, Ethics and the Law

1. Provide humane, ethical and compassionate care to all patients.
2. Continuously analyze patient treatment outcomes for improvement of patient care.
3. Communicate effectively with peers, other professionals, staff, patients or guardians and the public at large.
4. Recognize the role of lifelong learning and self-assessment in maintaining competency.
5. Apply the process of informed consent that meets ethical and legal responsibilities.

III. Practice Management Philosophies

1. Perform and monitor infection control and environmental safety measures according to current standards.
4. Establish and maintain patient records, including proper record entries.

IV. Patient Assessment

1. Identify a patient's chief complaint, general needs and expectations.
2. Obtain patient data adequate to provide dental treatment.
3. Perform a clinical examination.
4. Assess need for and select appropriate radiographs required for diagnosis.
5. Obtain clinical radiographic and other diagnostic information and procedures.
6. Recognize the normal range of clinical and radiographic findings and deviations that require monitoring or management.
7. Recognize predisposing and etiologic factors that require intervention to prevent disease.
8. Interpret findings from the history, clinical and radiographic examination, and other diagnostic procedures.
9. Obtain medical and dental consultations when appropriate.
10. Integrate subjective and objective clinical findings.
11. Evaluate the prognoses of various treatment options.

V. Treatment Planning

1. Formulate an individual, comprehensive, sequenced treatment plan using diagnostic and prognostic information from the comprehensive assessment of the patient.
2. Discuss etiologies, treatment alternatives and prognoses with the patient and educate him/her so he/she can participate in the management of his/her own care.
3. Develop, implement and modify a sequenced treatment plan considering the patient's goals, values, concerns and special needs.
4. Identify the need for and manage timely referrals when it is appropriate.

VI. Establishment and Maintenance of a Healthy Dental Patient

1. Recognize and manage medical emergencies.
2. Manage dental emergencies.
3. Manage patients with pain and anxiety associated with dental procedures.

4. Apply principles of behavioral sciences as they pertain to patient-centered approaches for promoting, improving and maintaining oral health.
5. Perform and evaluate preventive therapies.
6. Restore defective teeth.
7. Manage patients with periodontal diseases and conditions.
8. Manage patients with pulpal and periradicular diseases.
9. Manage patients with occlusal disorders.
10. Manage patients with oral mucosal soft tissue diseases.
14. Manage dental care for patients with special care needs.
15. Manage a diverse patient population and have the interpersonal and communication skills to function successfully in a multi-cultural work environment.
16. Select and administer or prescribe appropriate pharmacological agents in the treatment of patients with dental disease.
17. Anticipate, prevent and manage complications of dental treatment.
18. Periodically assess and monitor compliance with the patient's preventive care plan.

Objectives

More specific for restorative dentistry the student must:

1. Develop an appropriate, comprehensive, logically sequenced, individualized treatment plan for each patient based on evaluation of diagnostic information obtained in the comprehensive assessment of the patient.
2. Perform all necessary tasks to restore teeth with amalgam, tooth colored restorative materials, glass ionomer restorative materials, and cast gold alloy restorations.
3. Perform esthetic restorations for patients using bonded ceramic or composite veneers.
4. Fabricate and place interim restorations.
5. Select proper materials and techniques to restore teeth to normal function.
6. Explain and discuss with the responsible person(s) the time requirements, sequence of treatment, estimated fees, and payment responsibilities.
7. Obtain informed consent and written acceptance of the treatment plan by patient, parent, or guardian.
8. Demonstrate understanding of and apply the principles of the ADA Code of Ethics.
9. Demonstrate understanding of the principles of ethical behavior and apply these principles in decision-making and interactions with patients, staff and colleagues, and in personal conduct.
10. Recognize the importance of the preservation of the pulp, periodontal tissue, and other soft tissues of the oral cavity while performing all types of restorations.
11. Perform all necessary tasks to restore teeth with amalgam, tooth colored restorative materials, glass ionomer restorative materials, and cast gold alloy restorations.
12. Fabricate and place interim restorations.
13. Apply all preventive measures such as topical fluorides, sealants, and preventive resin restorations maintaining the integrity and health of all oral tissues.
14. Select proper materials and techniques to restore teeth to normal function.
15. Select the proper treatment for the restoration of teeth regardless of the age, dental status or health of the patient.
16. Interpret findings from the history, clinical and radiographic examination and other aids; identify the etiology and pathogenesis of each disorder, establish a diagnosis and identify the problems and conditions requiring treatment.
17. Develop an appropriate, comprehensive, logically sequenced, individualized treatment plan based on evaluation of diagnostic information obtained in the comprehensive assessment of the patient.
18. Explain and discuss the findings, diagnosis and treatment options with the patient, parent or guardian.
19. Explain and discuss with the responsible person(s) the time requirements, sequence of treatment, estimated fees, and payment responsibilities.
20. Obtain informed consent and written acceptance of the treatment plan by the patient, parent or guardian.
21. Appropriately modify treatment plans when indicated due to unexpected circumstances, noncompliant individuals, or for patients with special needs such as frail elderly or medically, mentally, and functionally compromised persons.

22. Prescribe and/or administer and monitor appropriate pharmaceutical agents for all types of dental treatment.
23. Prevent pain and anxiety associated with dental procedures.
24. Perform differential diagnosis of orofacial pain and perform appropriate pain control treatment or referral.
25. Use local anesthesia techniques.
26. Evaluate the periodontium, recognize etiologic factors, arrive at a diagnosis and prognosis, and formulate a plan of treatment (as it relates to the restorative-periodontal relationship).
27. Evaluate the results of periodontal treatment and establish and monitor an appropriate maintenance program (as it relates to the restorative-periodontal relationship).
28. Analyze existing occlusal relationships by the proper use of diagnostic dental casts mounted in centric relation.
29. Provide restorative treatment to establish or maintain occlusal harmony based on knowledge of occlusal concepts and understanding of the function of the masticatory system.
30. Evaluate the pulp and periradicular tissues and arrive at an appropriate diagnosis and prognosis to formulate a treatment plan (as it relates to the restorative-pulpal tissue relationship).
31. Demonstrate understanding of the principles of ethical behavior and apply these principles in decision-making and interactions with patients, staff and colleagues, and in personal conduct.
32. Provide humane and compassionate care to all patients, maintain honesty and confidentiality in interactions with patients, and serve patients and interact with colleagues and auxiliary personnel without discrimination.

STANDARDS OF CARE

During this course you should monitor daily grading of procedures. Performance at or above the “3” level would indicate adequate knowledge, skill and/or patient management. Any problem areas must be addressed and developed to achieve an improved, higher level of clinical performance and patient care.

The Fourth Year Operative Competency examination criteria sheets list the standard of care requirements for the preparation and finish of Class II amalgams, Class III composites, Class II direct composites and Class II indirect resins for CLIN 4006 Operative Dentistry Clinic. These criteria should form the foundation for many basic Operative restorative procedures.

Additional information regarding the standards of care for Operative Dentistry Clinic may be found in the Clinic Manual and in preclinical course syllabi.

Primary Competencies

VI. Establishment and Maintenance of a Healthy Dental Patient

11. Manage patients requiring oral surgical procedures.
17. Anticipate, prevent and manage complications of dental treatment.

Secondary Competencies

I. Principles of Professionalism, Ethics and the Law

1. Apply the process of informed consent that meets ethical and legal responsibilities
3. Provide humane, ethical and compassionate care to all patients.

III. Practice Management Philosophies

1. Perform and monitor infection control and environmental safety measures according to current standards.
4. Establish and maintain patient records

IV. Patient Assessment

1. Identify a patient's chief complaint, general needs and expectations.
2. Obtain patient data adequate to provide dental treatment.
8. Interpret findings from the history, clinical and radiographic examination, and other diagnostic procedures.
9. Obtain medical and dental consultations when appropriate.

VI. Establishment and Maintenance of a Healthy Dental Patient

1. Recognize and manage medical emergencies.
3. Manage patients with pain and anxiety associated with dental procedures.

STANDARDS OF CARE

The following standards of care apply when oral and maxillofacial surgery procedures are performed by predoctoral students, residents, or faculty in UT-Houston Dental Branch clinics:

Preoperative Preparation

1. The patient record must include the current medical history, physical examination findings, differential diagnosis, documentation of therapeutic indications for recommended treatment and a logical sequential treatment plan.
2. The medical history must be reviewed and pertinent findings must be considered prior to the performance of any surgical procedure.

3. The proposed surgical procedure(s) must be well documented in a logical sequential treatment plan.
4. Current diagnostic radiographs, when indicated, must be readily available. Interpretation of these radiographs must be recorded in the patient record.
5. Written, informed consent must be obtained from the patient or guardian, and entered into the patient record prior to any surgical procedure.

Patient Management

1. The patient will be treated in a professional manner at all times.
2. Satisfactory local anesthesia must be attained prior to beginning any invasive surgical procedure.

Infection Control

1. Intraoral surgery cannot be done aseptically because the oral cavity is a contaminated field. The surgeon should strive to minimize cross contamination by applying "clean" surgical techniques.
2. Surgical technique will consist of a proper presurgical scrub, disposable surgical gowns, sterile disposable surgical gloves, surgical cap, surgical mask, appropriate eye protection, sterile surgical instrument packs, and sterile drapes and barriers.
3. Once the surgical procedure has started students should avoid leaving the surgical area/cubicle while wearing contaminated surgical garb to minimize cross-contamination. If instruments or local anesthesia are needed the student should have a fellow student who is not "scrubbed-in" or have the attending faculty procure the materials for you.
4. You should not wear contaminated gowns/cap/gloves outside of the cubicle after the surgery is completed. When presenting your record, prescriptions and encounter form(s) for faculty review you **MUST** not be wearing contaminated garb. Failure to comply will result in a grade of "0" (N) for the Aseptic and Patient Management section on the encounter form.

Surgical Technique

1. Indicated surgical procedures will be completed in a timely manner without injury or compromise to adjacent teeth or structures.
2. Untoward events, such as incomplete tooth removal, unanticipated tissue injury, oroantral communication, etc., will be recognized, and treated or referred as indicated by the circumstances and the experience level of the operator.
3. A postoperative progress note must document the following: (1) preoperative diagnosis, (2) postoperative diagnoses, (3) anesthesia, (4) surgical procedure, and (5) disposition.
4. All patients must receive written and oral postoperative instructions, and must be scheduled for appropriate postoperative follow-up examination.

Primary Competency

VI. Establishment and Maintenance of a Healthy Dental Patient

7. Manage patients with periodontal diseases and conditions.
 - 7.1 Based on the examination of the patient, evaluate the periodontium, recognize etiologic factors, develop a diagnosis, establish a prognosis, and formulate a plan of treatment.
 - 7.2 Demonstrate the following nonsurgical procedures: Dental prophylaxis, scaling, root planing.
 - 7.3 Evaluate the results of periodontal treatment (reevaluation), organize, establish and monitor a dental/periodontal maintenance program.
 - 7.4 Describe the rationale behind surgical periodontal procedures.
 - 7.5 Refer periodontally difficult and/or severely compromised patients, to a competent specialist, recognizing the scope and potentials of specialist periodontal care.
 - 7.6 Integrate periodontics into a total dental and oral preventive and treatment program for the patient.

Secondary Competencies

I. Principles of Professionalism, Ethics and the Law

1. Provide humane, ethical and compassionate care to all patients.
2. Continuously analyze patient treatment outcomes for improvement of patient care.
3. Communicate effectively with peers, other professionals, staff, patients or guardians and the public at large.
5. Apply the process of informed consent that meets ethical and legal responsibilities.
7. Apply the principles of ethical reasoning and professional responsibility as they pertain to patient care and practice management.

II. Information Management and Critical Thinking

1. Apply critical thinking and problem solving skills in the comprehensive care of patients.

III. Practice Management Philosophies

1. Perform and monitor infection control and environmental safety measures according to current standards.
4. Establish and maintain patient records.

IV. Patient Assessment

1. Identify the patient's chief complaint, general needs and expectations.
2. Obtain a medical, dental and psychosocial history.
3. Perform a clinical examination.
4. Assess diagnostics benefits/risks and select appropriate radiographs required for diagnosis.
5. Obtain clinical radiographic and other diagnostic information and procedures.

6. Recognize the normal range of clinical and radiographic findings and deviations that require monitoring or management.
7. Recognize predisposing and etiologic factors that require intervention to prevent disease.
8. Interpret findings from the history, clinical and radiographic examination, and other diagnostic procedures.
9. Obtain medical and dental consultations when appropriate.
10. Integrate subjective and objective clinical findings.
11. Evaluate the prognoses of various treatment options.

V. Treatment Planning

1. Formulate an individual, comprehensive, sequenced treatment plan using diagnostic and prognostic information from the comprehensive assessment of the patient.
2. Discuss etiologies, treatment alternatives and prognoses with the patient, and educate him/her so he/she can participate in the management of his/her own care.
3. Develop, implement and modify a sequenced treatment plan considering the patient's goals, values, concerns and special needs.
4. Identify the need for and manage timely referrals when appropriate.

VI. Establishment And Maintenance of a Healthy Patient

5. Perform and evaluate preventive therapies (Periodontics only)
16. Select and administer or prescribe appropriate pharmacological agents in the treatment of patients with dental disease. (Periodontics only)
17. Anticipate, prevent and manage complications of dental treatment. (Periodontics only)
18. Periodically assess and monitor compliance with the patient's preventive care. (Periodontics only)

STANDARDS OF CARE

Each clinical discipline has developed standards of care for the competencies and clinical procedures that students accomplish in clinical activities. The American Academy of Periodontology (AAP) has developed parameters on the diagnosis and treatment planning of periodontal diseases, and has published a booklet containing this information. Due to the length of the publication and the importance of including all aspects of "standards of periodontal care", we have not copied the booklet in the syllabus. The guide is entitled "Parameters of Care" and can be found at the Dental Branch Library (J. Periodontol. 2000;71:847-883) or at the website address:

<<http://www.perio.org/resources-products/pdf/parameters.pdf>>

The student is encouraged to read, study, and consult this publication as necessary. Additionally, the student must be acquainted with the "universal" Standards of Patient Care for the Dental Branch clinics, which are published in the *UTDB Clinic Manual*.

Primary Competencies

- IV. Patient Assessment
 - 6. Recognize the normal range of clinical and radiographic findings and deviations that require monitoring or management.
- VI. Establishment and Maintenance of a Healthy Dental Patient
 - 12. Manage patients requiring orthodontic treatment or space maintenance.

STANDARDS OF CARE

Dental students, residents and faculty at UTDB will adhere to the “Clinical Practice Guidelines for Orthodontics and Dentofacial Orthopedics,” 1996 edition as recommended in the American Association of Orthodontists. Pertinent portions of the guidelines are listed below and a complete copy is available in the Dental Branch Library.

PRETREATMENT CONSIDERATIONS

A screening examination may be performed to determine the nature of the orthodontic problem, and to determine if and when treatment is indicated. When treatment is indicated, a comprehensive examination must be performed that should include:

1. Chief Complaint. The chief complaint or the reason for seeking treatment should be recorded as described by the patient, parent or legal guardian.
2. Medical and Dental History. An appropriate medical and dental history must be obtained as a part of the initial evaluation of the patient. If treatment is to be delayed until a future date, an updated history may be necessary. Patients/parents/legal guardians should be requested to advise the orthodontist of any change in the patient’s health history.
3. Clinical Examination. A comprehensive clinical examination should include the following with all findings recorded in the patient’s record:
 - a. An extraoral facial assessment to determine facial form, symmetry, soft-tissue harmony and status of the perioral musculature. This determines deviations from normal regarding a patient’s sagittal, vertical and transverse maxillofacial relationships and assesses the relationship of the dentition to the facial structures.
 - b. An intraoral examination to assess the condition of the hard and soft tissues of the mouth (including the periodontium) and the static and functional status of the patient’s occlusion.
 - c. An evaluation of the temporomandibular joint and associated musculature to assess function and disease.

Diagnostic Records

Diagnostic records and tests will vary with the nature of the patient’s condition but must be sufficient to identify the problems, formulate a diagnosis and allow the development of an acceptable course of treatment. Where limited

orthodontic procedures are anticipated, diagnostic records may vary from those associated with comprehensive care. Pretreatment diagnostic records for comprehensive orthodontic treatment should include the following to establish a baseline for documenting treatment and/or growth changes:

1. Extra and intraoral photographs (or video images) to supplement the clinical findings.
2. Dental casts to assess the inter-arch and intra-arch relationship of the teeth, to help determine arch length and width requirements and to assess arch symmetry.
3. Intraoral and/or panoramic radiographs to assess the condition and developmental status of the teeth and associated structures and to identify any dental anomalies or pathology.
4. Cephalometric radiographs to permit evaluation of the size, shape and positions of the craniofacial structures and dentition and to aid in the identification of skeletal anomalies or pathology.

Referral

Practitioners must make a recommendation for referral of patients to general dentists, other dental specialists, physicians or other health care practitioners whenever, in the judgment of a practitioner, referral would be in the best interest of a patient.

DIAGNOSIS AND TREATMENT

Prior to the initiation of orthodontic treatment, a diagnosis of the patient's oral health condition must be made. A diagnosis allows for the development of a treatment plan that addresses the patient's chief complaint; medical and dental history; and dental, facial, skeletal, functional and/or psychosocial problems.

After a diagnosis has been established, a treatment plan must be developed. Such a plan will facilitate coordination of the treatment objectives and the various methods available for addressing them. The plan should include:

1. A list of the patient's dental, facial, skeletal, functional and/or psychosocial problems.
2. A differential diagnosis which coordinates the patient's/parent's/ guardian's chief complaint with the clinical findings.
3. A written plan for therapy which includes treatment goals, appliance selection, sequencing and timing of treatment, coordination with other health care providers and retention.

The treatment plan should be periodically reassessed throughout treatment. This reassessment should take into consideration various limiting factors and establish short and/or long term objectives.

Anomalies of Jaw Size, Relationship of Jaw to Cranial Base, Dental Arch Relationship and Dental Alveolus

The following conditions may indicate the need for orthodontic or dentofacial orthopedic treatment. These conditions may be structural or functional, may appear in various combinations and are not limited to the following. Frequently used treatment options, which may include the removal of primary or permanent teeth, are listed for each condition.

- I. Maxillary/Dentoalveolar Hyperplasia (Large Maxilla)
 - A. Diagnostic considerations
 1. Anteroposterior
 - a. excess overjet
 - b. distoclusion
 - c. asymmetry
 - d. mid-face protrusion
 2. Vertical

- a. long face height
 - b. deep overbite
 - c. open bite
 - d. lip incompetency
 - e. asymmetry
3. Transverse
- a. buccal maxillary crossbite (unilateral or bilateral; functional or structural)
 - b. asymmetry

B. Treatment options

- 1. Primary dentition
 - a. treatment indicated under certain circumstances; appliances vary
- 2. Mixed dentition
 - a. functional/Orthopedic appliances
 - b. fixed or removable orthodontic appliances
- 3. Adolescent dentition
 - a. functional/orthopedic appliances
 - b. fixed or removable orthodontic appliances
 - c. fixed orthodontic appliances adjunctive to orthognathic surgery (surgery usually performed after majority of growth completed)
- 4. Adult dentition
 - a. fixed or removable appliances
 - b. fixed orthodontic appliances adjunctive to orthognathic surgery

II. Maxillary/Dentoalveolar Hypoplasia (Small Maxilla)

A. Diagnostic considerations

- 1. Anteroposterior
 - a. mesiocclusion
 - b. anterior crossbite (functional or structural)
 - c. asymmetry
 - d. midface deficiency
- 2. Vertical
 - a. short face height
 - b. deep overbite
 - c. open bite
 - d. lip redundancy
 - e. asymmetry
- 3. Transverse
 - a. lingual posterior crossbite (unilateral or bilateral; functional or structural)
 - b. asymmetry

B. Treatment Options

- 1. Primary dentition
 - a. functional/orthopedic appliances
 - b. fixed or removable orthodontic appliances

2. Mixed dentition
 - a. functional/orthopedic appliances
 - b. fixed or removable orthodontic appliances
3. Adolescent dentition
 - a. functional/orthopedic appliances
 - b. fixed or removable orthodontic appliances
4. Adult dentition
 - a. fixed or removable orthodontic appliances
 - b. fixed orthodontic appliances adjunctive to orthognathic surgery

III. Mandibular/Dentoalveolar Hyperplasia (Large Mandible)

A. Diagnostic considerations

1. Anteroposterior
 - a. prognathic facial pattern
 - b. mesiocclusion
 - c. anterior crossbite (functional or sturctural)
 - d. macrogenia
 - e. aysmmetry
2. Vertical
 - a. open bite
 - b. deep overbite
 - c. long lower facial height
 - d. asymmetry
3. Transverse
 - a. posterior crossbite (unilateral or bilateral; functional or structural)
 - b. asymmetry

B. Treatment Options

1. Primary dentition
 - a. treatment indicated under certain circumstances; appliances vary
2. Mixed dentition
 - a. functional/orthopedic appliances
 - b. fixed or removable orthodontic appliances
3. Adolescent dentition
 - a. functional/orthopedic appliances
 - b. fixed or removable orthodontic appliances
4. Adult dentition
 - a. fixed or removable orthodontic appliances
 - b. fixed orthodontic appliances adjunctive to orthognathic surgery

IV. Mandibular/Dentoalveolar Hypoplasia (Small Mandible)

A. Diagnostic considerations

1. Anteroposterior
 - a. mandibular retrognathic facial pattern

- b. excess overjet
 - c. distocclusion
 - d. asymmetry
 - 2. Vertical
 - a. open bite
 - b. deep overbite
 - c. short lower face height
 - d. long lower face height
 - 3. Transverse
 - a. posterior crossbite (unilateral or bilateral; functional or structural)
 - b. asymmetry
- B. Treatment Options
 - 1. Primary dentition
 - a. functional/orthopedic appliances
 - 2. Mixed dentition
 - a. functional/orthopedic appliances
 - b. fixed or removable orthodontic appliances
 - 3. Adolescent dentition
 - a. functional/orthopedic appliances
 - b. fixed or removable orthodontic appliance
 - c. fixed orthodontic appliances adjunctive to orthognathic surgery (surgery usually performed after majority of growth completed)
 - 4. Adult dentition
 - a. fixed or removable orthodontic appliances
 - b. fixed orthodontic appliances adjunctive to orthognathic surgery

Anomalies of Tooth Position, Discrepancies of Tooth Size and Arch Length

These conditions may appear in various combinations and are not limited to the following. Frequently used treatment options for these anomalies may include modification of tooth size, surgical exposure, extraction of primary or permanent teeth and appropriate soft tissue surgery.

- I. Deficient arch length (crowding)
 - A. Diagnostic considerations
 - 1. Facial-lingual displacement
 - 2. Supra/infra eruption
 - 3. Rotations
 - 4. Impactions
 - 5. Axial inclination of teeth (anterior or posterior)
 - 6. Tooth size
 - 7. Premature loss of primary teeth
 - 8. Ankylosis
 - B. Treatment options
 - 1. Primary dentition
 - a. functional/orthopedic appliances

2. Mixed dentition
 - a. functional/orthopedic appliances
 - b. fixed or removable orthodontic appliances
 - c. serial extraction
3. Adolescent dentition
 - a. fixed or removable orthodontic appliances
 - b. functional/orthopedic appliances
4. Adult dentition
 - a. fixed or removable orthodontic appliances

II. Excessive arch length (spacing)

A. Diagnostic considerations

1. Facial-lingual displacement
2. Axial inclination of teeth
3. Fibrous gingival hyperplasia
4. Frena
5. Tooth size

B. Treatment options

1. Primary dentition
Treatment rarely indicated
2. Mixed dentition
Fixed or removable orthodontic appliances
3. Adolescent dentition
Fixed or removable orthodontic appliances
4. Adult dentition
Fixed or removable orthodontic appliances

III. Discrepancies of arch form

A. Diagnostic considerations

1. Asymmetry
2. Inter-arch coordination
3. Abnormal occlusal planes: curves of Wilson and Spee

B. Treatment options

1. Primary dentition
 - a. fixed or removable orthodontic appliances
2. Mixed dentition
 - a. fixed or removable orthodontic appliances
3. Adolescent dentition
 - a. fixed or removable orthodontic appliances
 - b. functional/orthopedic appliances
4. Adult dentition
 - a. fixed or removable orthodontic appliances
 - b. fixed orthodontic appliances adjunctive to orthognathic surgery

Abnormalities of Tooth Number, Morphology and Eruption Pattern

Anomalies of tooth number, morphology or eruption pattern should be diagnosed and managed as soon as reasonably practical according to the particular requirements of each clinical situation. These conditions may appear in various combinations and may indicate the need for orthodontic or dentofacial orthopedic treatment. Some of the frequently used treatment options may require a multidisciplinary approach and may include the extraction of primary or permanent teeth.

- I. Diagnostic considerations
 - A. Supernumerary teeth
 - B. Missing teeth
 - 1. Congenital (anodontia)
 - 2. Pathologic
 - 3. Traumatic
 - 4. Extracted
 - C. Ectopic erupting teeth
 - D. Impacted teeth
 - E. Eruption anomalies
 - F. Over-retained primary teeth
 - G. Ankylosed teeth
 - H. Transposition
 - I. Atypical crown morphology
 - J. Premature loss of primary teeth
 - K. Atypical root morphology
 - L. Root resorption
 - M. Carious or fractured teeth
- II. Treatment options
 - A. Supernumerary teeth
 - 1. Surgical intervention
 - 2. Extraction
 - 3. Fixed or removable orthodontic appliances
 - B. Missing teeth
 - 1. Space maintenance
 - 2. Fixed or removable orthodontic appliances
 - 3. Prosthetic replacement of teeth/implants
 - 4. Transplantation
 - 5. Maintenance of primary teeth

- C. Ectopic teeth
 - 1. Fixed or removable orthodontic appliances
 - 2. Extraction
- D. Impacted teeth
 - 1. Surgical intervention
 - 2. Extraction
 - 3. Fixed or removable orthodontic appliances
- E. Eruption anomalies
 - 1. Surgical intervention
 - 2. Retention with or without coronal modification
 - 3. Extraction
 - 4. Fixed or removable orthodontic appliances
 - 5. Referral for medical evaluation
- F. Over-retained primary teeth
 - 1. Extraction
 - 2. Ankylosed teeth
 - 3. Extraction
 - 4. Surgical luxation
 - 5. Surgical repositioning
 - 6. Fixed or removable orthodontic appliances
 - 7. Retention with or without coronal modification
- G. Transposition
 - 1. Fixed or removable orthodontic appliances
 - 2. Extraction
 - 3. Retention with or without coronal modification
 - 4. Transplantation
- H. Atypical tooth morphology
 - 1. Retention with or without coronal modification
 - 2. Extraction
 - 3. Fixed or removable orthodontic appliances
- I. Premature loss of primary teeth
 - 1. Space maintenance
 - 2. Fixed or removable orthodontic appliances
- J. Atypical root morphology
 - 1. Monitor radiographically
 - 2. Extraction
- K. Root resorption
 - 1. Monitor radiographically

2. Extraction
 3. Stabilization
- L. Carious or fractured teeth
1. Reposition tooth or root
 2. Fixed or removable orthodontic appliances

Dentofacial Functional Abnormalities

Dentofacial functional abnormalities may occur in combination with other dentofacial conditions and should be diagnosed and managed according to the particular requirements of each clinical situation. Correction or control of function problems may involve alteration of behavior patterns, may require orthodontic/dentofacial orthopedic treatment or multidisciplinary treatment. The influence of functional abnormalities on dentofacial development is variable and cause and effect relationships are difficult to determine.

- I. Diagnostic Considerations
- A. Lip size and function
 - B. Tongue size and function
 1. Abnormal tongue function
 2. Ankyloglossia
 3. Microglossia or macroglossia
 - C. Deleterious habits
 1. Thumb, finger or lip sucking
 2. Pacifier sucking
 3. Tongue thrust/sucking
 4. Clenching
 5. Grinding
 6. Lip/cheek biting
 7. Nail biting
 8. Foreign objects (e.g., pipes, pens, pencils, musical instruments)
 - D. Airway obstruction
 1. Nasopharyngeal morphology
 2. Sleep apnea
 3. Allergies
 4. Pathology
 - E. Speech disorders
 - F. Mandibular dysfunction
 1. Dental interferences
 2. Skeletal abnormalities
 3. Neuromuscular abnormalities
 4. Temporomandibular dysfunction
 - G. Temporomandibular disorders

Temporomandibular disorders represent a broad range of conditions which involve medical, dental and psychological factors. Such disorders may be associated with stress, habits,

emotional disorders, structural malrelationships, trauma to the face or head, occlusal disharmonies and medical problems associated with osteoarthritis, rheumatoid arthritis or viral disease. These factors may be associated with another.

II. Treatment options

A. Lip size and function

1. Fixed or removable orthodontic appliances
2. Therapeutic exercises
3. Functional/Orthopedic appliances

B. Tongue size and function

1. Fixed or removable orthodontic appliances
2. Therapeutic exercises
3. Functional/orthopedic appliances
4. Surgical reduction
5. Lingual frenectomy

C. Deleterious habits

1. Fixed or removable orthodontic appliances
2. Functional/orthopedic appliances
3. Behavior management

D. Airway obstruction

1. Medical evaluation/treatment
2. Functional/orthopedic appliances
3. Orthognathic surgery

E. Speech disorders

1. Fixed or removable orthodontic appliances
2. Referral for evaluation/treatment

F. Mandibular dysfunction

1. Occlusal equilibration (modification of tooth form)
2. Fixed or removable orthodontic appliances
3. Fixed orthodontic appliances adjunctive to surgery
4. Functional/orthopedic appliances

G. Temporomandibular disorders

Numerous treatment modalities, including orthodontics, have produced beneficial results in the management of temporomandibular disorders. However, no singular treatment modality may necessarily be definitive for any particular patient. There is no scientific proof that any particular method of orthodontic treatment, whether involving extraction or nonextraction, has any causative effect on temporomandibular disorders. There is no reliable method for predicting or preventing future temporomandibular disorders in any particular individual.

Craniofacial Anomalies, Cleft Lip and Palate

Management of patients with these and other anomalies is, in many cases, best provided by a multidisciplinary team of dentists and physicians. The optimal time for the first evaluation of these patients is within the first few

days of life, and referral for team evaluation and management is appropriate at any age. Treatment plans should be developed and implemented on the basis of team recommendations. The orthodontist, as a member of the craniofacial defects team, should evaluate those factors that may influence surgical management, assist in treatment planning, obtain baseline diagnostic records and perform orthodontic treatment.

For patients at risk for developing malocclusion or maxillomandibular discrepancy, diagnostic records should be collected at appropriate intervals. Depending on the goals to be accomplished, periods of treatment and retention may be necessary beginning at birth. For example, patients with cleft lip and cleft palate may require presurgical maxillary orthopedics to improve the position of the maxillary alveolar segments prior to lip and palate closure. Timing of bone grafting of alveolar clefts should be determined by the stage of dental development and with the collaboration of the orthodontist and surgeon.

TREATMENT OBJECTIVES AND LIMITING FACTORS

Goals

The goals of orthodontic treatment are optimum dentofacial function, health, stability and esthetics. While these goals are desirable, it should be recognized that individual patients have problems, concerns and conditions which may prevent the attainment of optimal results in every case and that the non-attainment of some of the goals of orthodontic treatment in a particular patient is no indication of negligence by the orthodontist — even when no limiting factors are present.

Limiting Factors

Orthodontic treatment results may be affected by extenuating circumstances beyond the practitioner's control. These limiting factors should be documented in the patient's record when they occur and the patient/guardian should be informed. The following are some of the more common limiting factors affecting orthodontic therapy:

1. Severity of the pretreatment condition
2. Pretreatment agreement to pursue limited objectives
3. Abnormal skeletal morphology or growth during or after treatment
4. Abnormal size, shape or number of teeth
5. Aberrant tooth eruption patterns
6. Patient's failure to initiate timely treatment, continue or complete treatment
7. Compromised periodontal tissues
8. Persistent deleterious habits or abnormalities of muscle function relating to the dentofacial complex
9. Inability or unwillingness of the patient to cooperate with treatment (e.g., the wear and/or care of appliances, oral hygiene measures, diet or keeping appointments)
10. Failure to complete all recommended aspects of treatment
11. Poor quality, untimely or inappropriate integration of other recommended or required dental and/or medical services
12. Medical complications or underlying systematic conditions
13. Patients transferring to another provider during orthodontic treatment
14. Patients transferring from another provider where the previous treatment plan limits the quality of outcome
15. Incomplete correction or relapse of orthognathic surgical procedures

TREATMENT CONSULTATION AND INFORMED CONSENT

A discussion must be held with the patient/parents/legal guardian utilizing lay terminology to provide sufficient information for the responsible party to accept or reject the proposed treatment plan. This discussion must be documented and should include:

1. A description of the diagnosis and treatment plan
2. A discussion of reasonable alternative treatments
3. The relevant risks, compromises and limitations associated with the proposed treatment plan and alternative treatments
4. A discussion of any portion of the treatment plan that will require the services of other dental or medical health care providers and the anticipated effects of such services on the orthodontic treatment plan

5. The prognosis related to all treatment plans, including the option of no treatment
6. A discussion of the patient's responsibility relating to the care (e.g., maintaining periodic recall visits with their general dentists)
7. An estimate of the duration of active treatment and retention
8. A signed agreement regarding informed consent and the financial arrangements may be considered

Risks Associated with Orthodontic Treatment

All forms of medical and dental treatment, including orthodontics, involve some risks and/or limitations. Fortunately, in orthodontics, serious complications are infrequent. The orthodontist should determine which potential risks to disclose to the patient in the exercise of sound professional judgment given the clinical condition of the patient. Some of the risks associated with orthodontic treatment include:

1. Tooth decay, or permanent markings (decalcification).
2. The length of the roots of teeth may become shortened. This may be of no clinical significance or may require the discontinuance of orthodontic treatment with subsequent interdisciplinary treatment to stabilize the teeth.
3. The health of the bone and periodontal support of the teeth may be affected.
4. The teeth and/or jaws have a tendency to change their positions after treatment.
5. Occasionally temporomandibular joint problems may appear concurrently with orthodontic treatment but may not be related to the treatment.
6. The vitality of a tooth may be compromised.
7. Orthodontic appliances may irritate or damage the oral tissues and may cause injury if accidentally swallowed or aspirated.
8. Dental materials, instruments and equipment may result in damage or injury to the oral tissues, face and/or eyes.
9. Accidents during treatment or patient misuse of orthodontic appliances may result in injury to the oral tissues, face and/or eyes.
10. Oral surgery, orthognathic surgery or other adjunctive medical, surgical or dental procedures may be necessary in conjunction with orthodontic treatment. Associated treatments carry additional risks which must be discussed with the patient/parents/legal guardian by the health care practitioner providing the service.
11. Orthodontic appliances may cause attrition, flaking or fracturing of tooth structure.
12. When orthodontic appliances are removed, fracture and/or damage to the teeth may result.
13. Medical or psychosocial conditions may result in compromised results or dissatisfaction with treatment.
14. Orthodontic materials may cause allergic reactions in some individuals.
15. Patients may be dissatisfied with their dental or facial esthetics at the conclusion of treatment due to unrealistic expectations or perceptions.
16. Abnormal growth during or after treatment may produce undesirable results.
17. Treatment time may be extended and results compromised due to unforeseen circumstances and poor patient cooperation.

POST TREATMENT EVALUATION AND OUTCOMES ASSESSMENT

The effects of orthodontic treatment should be evaluated retrospectively with reference to the pretreatment condition. Consistent re-evaluation of treatment results along with continued review of treatment modalities and their effectiveness will serve to provide the public with the highest quality of orthodontic care. Assessing the outcome of treatment is dependent upon the treatment goals and objectives, the condition being treated, the stage of the patient's dentofacial development and the treatment provided. Limiting factors must be considered when evaluating treatment and outcomes.

Post Treatment Records

Post treatment records provide information for the quantitative and qualitative assessment of treatment changes as well as for education, research and quality assurance. Post treatment records may include:

1. Extra and intraoral photographs or video images
2. Dental casts

3. Intraoral, panoramic or cephalometric radiographs
4. Other indicated procedures or tests

Positive Outcomes of Treatment

1. Satisfaction of the patient's chief complaint
2. Well aligned teeth
3. Good or improved occlusal function
4. Good or improved dental and facial esthetics
5. Good or improved environment for dentofacial development
6. Desirable modification of the size, shape, and position of the jaw(s)
7. Stability of the treatment results
8. Good or improved dental and periodontal health

Negative Outcomes of Treatment

1. The patient's chief complaint was not satisfied
2. Poorly aligned teeth
3. Poor or unimproved occlusal function
4. Poor or unimproved dental and facial esthetics
5. Premature root resorption (primary teeth)
6. Excessive root resorption (permanent teeth)
7. Loss of periodontal support
8. Clinically significant decalcification or dental caries
9. Unsatisfactory modification of the size, shape and position of the jaws
10. Instability of the treatment results

RETENTION

1. A retention plan must be established after reviewing the patient's original condition, treatment objectives, the results achieved and/or any limiting factors.
2. Completion of orthodontic treatment does not ensure the stability of the result. Future treatment may be recommended since post treatment changes occur and may be due to growth, maturation, aging, lack of compliance with the retention protocol, periodontal problems, oral habits and post treatment trauma, among other factors.
3. After an appropriate period of retention therapy, the responsibility for monitoring the stability of post treatment results may be relinquished to the patient and/or the patient's primary care provider.

RECORD KEEPING

The keeping and preserving of a patient's dental record is necessary to the goal of providing high quality orthodontic treatment. Prudent record keeping is the foundation for planning and maintaining the continuity of patient care. It also provides documentary evidence of the evaluation and diagnosis of the patient's condition, the treatment plan, the treatment provided, referrals made and follow up care. It also documents communications with the patient, other health care providers and any other third parties. The dental record also protects the legal interests of all parties. In addition, a patient's dental record may provide material for continuing education, research, administrative oversight, billing and quality assurance.

1. Treatment procedures, changes in the treatment plan, patient compliance, treatment difficulties and other important aspects of treatment must be recorded and maintained. Copies of related correspondence and appropriate release forms must also be maintained as part of the patient's record.
2. Documentation must be written, dictated, or computer annotated; maintained concurrently and kept chronologically.
3. The original records are usually considered the property of the practitioner. Laws regarding patient record access, duplication and transfer vary from state to state. Practitioners can obtain clarification from their state regulatory agency.

TRANSFER OF ORTHODONTIC PATIENTS

Because of the time required to complete orthodontic treatment, the transfer of care from one practitioner to another occurs frequently.

Recommendations to the Transferring Practitioner

1. Practitioners should attempt to arrange for the continuation of orthodontic treatment of their patients with as little interruption as possible. Regardless of the reason for transfer, reasonable efforts of both the transferring and accepting practitioner are necessary to effect an orderly transfer. It is recommended, and in some states required, to obtain a written release from the patient/parent/legal guardian prior to the transfer of patients records. It is preferable to send copies of the pertinent records directly to the new practitioner. It is acceptable, but less desirable, to provide these records to the patient/parent/legal guardian. A patient's records should not be withheld due to an outstanding balance.
2. The transferring practitioner should ensure that all appliances are in good order. The patient/parent/guardian should be advised that extended periods of active orthodontic treatment without supervision can be detrimental, and an appointment with the new practitioner should be scheduled as soon as possible.
3. The patient/parent/legal guardian should be informed that there may be different approaches to treatment by different practitioners.
4. The transferring practitioner should make no statements that would undermine the establishment of a sound doctor/patient relationship with the accepting practitioner.
5. The transferring practitioner should be available for consultation by the accepting practitioner.

Recommendations to the Accepting Practitioner

1. The accepting practitioner should review the patient's records, if available, prior to the development of a plan for continuation of treatment. In addition, the estimated time required to complete treatment and the financial arrangement for continuation of treatment should be discussed as soon as possible. Patients should be informed about their present oral health status without unprofessional comments about prior treatment.
2. Appropriate records documenting the status of the case at the time of transfer should be made. Every effort should be made to minimize the patient's exposure to radiation.
3. A practitioner is not obligated to accept an orthodontic transfer patient. If a practitioner is unable or unwilling to accept the transfer patient, the practitioner may assist the patient/parent/legal guardian in finding another practitioner.
4. At a patient/parent/legal guardian's request, a practitioner may remove appliances from a patient not of record. If appropriate, previous practitioners should be consulted.

CLIN 4012 ASSESSMENT, DIAGNOSIS, AND TREATMENT PLANNING

COMPETENCIES

Upon successful completion of this course, the student should be able to demonstrate competence in the following areas:

- I. Principles of Professionalism, Ethics, and the Law
 1. Provide humane, ethical and compassionate care to all patients.
 2. Continuously analyze patient treatment outcomes for improvement of patient care.
 3. Communicate effectively with peers, other professional, staff, patients or guardians and public at large.
 4. Recognize the role of lifelong learning and self-assessment in maintaining competency.
 5. Apply the process of informed consent that meets ethical and legal responsibilities.
 6. Apply ethical, legal, and regulatory concepts to the provision and/or support of oral health care services.

- II. Information Management and Critical Thinking
 1. Apply critical thinking and problem solving skills in the comprehensive care of patients.

- III. Practice Management Philosophies
 1. Perform and monitor infection control and environmental safety measures according to current standards.
 4. Establish and maintain patient records.

- IV. Patient Assessment
 1. Identify a patient's chief complaint, general needs and expectations.
 2. Obtain patient data adequate to provide dental treatment.
 3. Perform a clinical examination.
 4. Assess need for and select appropriate radiographs required for diagnosis.
 6. Recognize the normal range of clinical and radiographic findings and deviations that require monitoring or management.
 7. Recognize predisposing and etiologic factors that require intervention to prevent disease.
 8. Interpret findings from the history, clinical and radiographic examinations and other diagnostic procedures.
 9. Obtain medical and dental consultations when appropriate.
 10. Integrate subjective and objective clinical findings in the formulation of the diagnosis.
 11. Evaluate the prognosis of various treatment options.

- V. Treatment Planning
 1. Formulate an individual, comprehensive, sequenced treatment plan using diagnostic and prognostic information from the comprehensive assessment of the patient.
 2. Discuss etiologies, treatment alternatives, prognoses and preventive strategies with the patient; educate the patient so he/she can participate in the management of his/her own care.
 3. Develop, implement and modify a sequenced treatment plan considering the patient's goals, values, concerns and special needs.
 4. Identify the need for and manage timely referrals when appropriate.

VI. Establishment and Maintenance of a Health Dental Patient

- 5. Perform and evaluate preventive therapies.
- 10. Manage patients with oral mucosal disorders.
- 18. Periodically assess and monitor the patient's preventive care.

STANDARDS OF CARE

- 1. The patient will be treated in a professional manner at all times.
- 2. The patient's chief complaint, concerns, and expectations will be considered.
- 3. The patient's dental and medical histories will be considered to identify predisposing conditions and medications that may affect the prognosis, progression, and treatment of oral disease.
- 4. The patient will receive a physical evaluation, as indicated by the patient's history and presentation, to include evaluation of extra-oral and intra-oral tissues and structures.
- 5. The patient will receive adjunctive diagnostic evaluation, such as radiographs, as indicated from the physical evaluation and presentation.
- 6. When radiographs are obtained, they will be current, of diagnostic quality, and based on the diagnostic needs of the patient. An interpretation of the radiograph/radiographs will follow.
- 7. The patient will be referred to other dental and/or other healthcare professionals when determined to be in the best interest of the patient.
- 8. A process of differential diagnosis, as appropriate, will be utilized when evaluating oral conditions and developing a treatment plan.
- 9. The patient must be advised of diagnoses, recommended treatment, treatment options, if any, and the benefits, prognosis, limitations and risks associated with those treatments, as well as the probable consequences of no treatment.
- 10. The patient must receive appropriate information regarding prevention and early detection of oral disease through patient education in preventive oral health practices, including oral hygiene instructions.
- 11. The patient will be referred to other dental and/or other healthcare professionals when determined to be in the best interest of the patient.

Primary Competencies

II. Information Management and Critical Thinking

1. Apply critical thinking and problem solving skills in the comprehensive care of patients.
2. Apply information technology resources in contemporary dental practice.

IV. Patient Assessment

7. Identify a patient's chief complaint, general needs and expectations.
8. Obtain patient data adequate to provide dental treatment.
9. Perform a clinical examination.
10. Assess need for and select appropriate radiographs required for diagnosis.
11. Obtain clinical radiographic and other diagnostic information and procedures.
12. Recognize the normal range of clinical and radiographic findings and deviations that require monitoring or management.
13. Recognize predisposing and etiologic factors that require intervention to prevent disease.
14. Interpret findings from the history, clinical and radiographic examination, and other diagnostic procedures.
15. Obtain medical and dental consultations when appropriate.
16. Integrate subjective and objective clinical findings.
17. Evaluate the prognoses of various treatment options.

V. Treatment Planning

4. Identify the need for and manage timely referrals when it is the appropriate option.

VI. Establishment and Maintenance of a Healthy Dental Patient

8. Recognize and manage medical emergencies.
9. Manage dental emergencies.
10. Manage patients with pain and anxiety associated with dental procedures.
11. Apply principles of behavioral sciences as they pertain to patient-centered approaches for promoting, improving and maintaining oral health.
12. Perform and evaluate preventive therapies.
13. Restore defective teeth.
14. Manage patients with periodontal diseases and conditions.
15. Manage patients with pulpal and periradicular diseases.
11. Manage patients requiring oral surgical procedures.
12. Manage patients requiring orthodontic treatment or space maintenance.
15. Manage a diverse patient population and have the interpersonal and communication skills to function successfully in a multi-cultural work environment.
16. Select and administer or prescribe appropriate pharmacological agents in the treatment of patients with dental disease.
17. Anticipate, prevent and manage complications of dental treatment.

Secondary Competencies

V. Treatment Planning

1. Formulate an individual, comprehensive, sequenced treatment plan using diagnostic and prognostic information from the comprehensive assessment of the patient.
2. Discuss etiologies, treatment alternatives, prognoses and preventive strategies with the patient; educate the patient so he/she can participate in the management of his/her own care.

STANDARDS OF CARE

Standards of patient care have been developed to describe clinical considerations in the diagnosis and treatment of oral health conditions and, accordingly, to serve as a basis for clinical decision making. Please refer to the current *UTDB Clinic Manual*, Section 6.21.

1. **The patient will be treated in a professional manner at all times.**
2. The patient's chief complaint, concerns, and expectations will be considered.
3. The patient's dental and medical histories will be considered in identifying predisposing conditions and medications that may affect the prognosis, progression, and treatment of oral disease.
4. The patient will receive a clinical evaluation, as indicated by the patient's history and presentation, to include evaluation of extra-oral and intra-oral tissues and structures.
5. The patient will receive adjunctive diagnostic evaluation, such as radiographs, as indicated from the clinical evaluation and patient presentation.
6. When radiographs are obtained, they will be current, of diagnostic quality, and based on the diagnostic needs of the patient. An interpretation of the radiograph(s) will follow.
7. The patient will be referred to other dental and/or healthcare professionals when determined to be in the best interest of the patient.

COMPETENCIES

Upon successful completion of this course, students will have met the requirements for competence as defined in the Dental Branch's *Competencies for the Pre-doctoral Curriculum* and *Standards of Care* documents:

I. Principles of Professionalism, Ethics and the Law

1. Provide humane, ethical and compassionate care to all patients.
2. Continuously analyze patient treatment outcomes for improvement of patient care.
3. Communicate effectively with peers, other professionals, staff, patients or guardians and the public at large.
4. Recognize the role of lifelong learning and self-assessment in maintaining competency.
5. Apply the process of informed consent that meets ethical and legal responsibilities.
6. Apply ethical, legal and regulatory concepts to the provision and/or support of oral health care services.
7. Apply the principles of ethical reasoning and professional responsibility as they pertain to patient care and practice management.

II. Information Management and Critical Thinking

1. Apply critical thinking and problem solving skills in the comprehensive care of patients.
2. Apply information technology resources in contemporary dental practice.

III. Practice Management Philosophies

1. Perform and monitor infection control and environmental safety measures according to current standards.
2. Evaluate different models of oral health care management and delivery.
3. Understand the basic principles and philosophies of practice management and have the skills to function successfully as the leader of the oral health care team.
4. Establish and maintain patient records.

IV. Patient Assessment

1. Identify a patient's chief complaint, general needs and expectations.
2. Obtain patient data adequate to provide dental treatment.
3. Perform a clinical examination.
4. Assess need for and select appropriate radiographs required for diagnosis.
5. Obtain clinical radiographic and other diagnostic information and procedures.
6. Recognize the normal range of clinical and radiographic findings and deviations that require monitoring or management.
7. Recognize predisposing and etiologic factors that require intervention to prevent disease.
8. Interpret findings from the history, clinical and radiographic examinations, and other diagnostic procedures.
9. Obtain medical and dental consultations when appropriate.
10. Integrate subjective and objective clinical findings in the formulation of the diagnosis.
11. Evaluate the prognoses of various treatment options.

V. Treatment Planning

1. Formulate an individual, comprehensive, sequenced treatment plan using diagnostic and prognostic information from the comprehensive assessment of the patient.
2. Discuss etiologies, treatment alternatives, prognoses and preventive strategies with the patient; educate the patient so he/she can participate in the management of his/her own care.
3. Develop, implement and modify a sequenced treatment plan considering the patient's goals, values, concerns and special needs.
4. Identify the need for and manage timely referrals when appropriate.

VI. Establishment and Maintenance of a Healthy Dental Patient

1. Recognize and manage medical emergencies.
2. Manage dental emergencies.
3. Manage patients with pain and anxiety associated with dental procedures.
4. Apply principles of behavioral sciences as they pertain to patient-centered approaches for promoting, improving and maintaining oral health.
5. Perform and evaluate preventive therapies.
6. Restore defective teeth.
7. Manage patients with periodontal diseases and conditions.
8. Manage patients with pulpal and periradicular diseases.
9. Manage patients with occlusal disorders.
10. Manage patients with oral mucosal disorders.
11. Manage patients requiring oral surgical procedures.
12. Manage patients requiring orthodontic treatment or space maintenance.
13. Manage patients with partial or complete edentulous areas.
14. Manage dental care for patients with special care needs.
15. Manage a diverse patient population and have the interpersonal and communication skills to function successfully in a multi-cultural work environment.
16. Select and administer/prescribe appropriate pharmacological agents in the treatment of patients with dental disease.
17. Anticipate, prevent and manage complications of dental treatment.
18. Periodically assess and monitor the patient's preventive care.

STANDARDS OF CARE

1. The patient must be treated in a professional manner at all times.
2. The patient's chief complaint, concerns, and expectations must be addressed.
3. The patient's dental and medical histories must be considered to identify predisposing conditions and medications that may affect the prognosis, progression and treatment of oral disease.
4. The patient must receive a clinical and appropriate physical evaluation, as indicated by the patient's history and presentation, to include evaluation of extra-oral and intra-oral tissues and structures.
5. The patient must receive adjunctive diagnostic evaluation, such as radiographs and laboratory studies, as indicated from the clinical and physical evaluation and presentation.
6. When radiographs are obtained, they will be based on the diagnostic needs of the patient and of diagnostic quality. An interpretation of radiographs must be included in the patient's record.

7. The patient will be referred to other dental and/or healthcare professionals when determined to be in the best interest of the patient, or at the patient's request.
8. As appropriate, a process of differential diagnosis should be utilized when evaluating oral conditions and developing a treatment plan.
9. The behavioral, psychological, anatomical, developmental, and physiological limitations of the patient must be considered when developing a treatment plan.
10. The patient must be advised of diagnoses, recommended treatment, treatment options, if any, and the benefits, prognosis, limitations, and risks associated with those treatments, as well as the probable consequences of no treatment.
11. The patient must receive appropriate information regarding prevention and early detection of oral diseases through patient education in preventive oral health practices, including oral hygiene instructions.
12. Any treatment performed must be with the written approval of the attending dentist and the concurrence of the patient. If the patient insists upon treatment not considered by the attending dentist to be beneficial for the patient, the school may decline to provide treatment.
13. Medications must be prescribed, modified, and/or administered for patients, as appropriate.
14. The patient's medical history, vital signs, diagnoses, treatment plan, and informed consent for treatment must be reviewed and updated, as indicated, at each treatment appointment.
15. Documentation of all examinations, diagnoses, treatment provided, counseling, recommended preventive measures and consultations with and referrals to other healthcare professionals, will be included in the patient's dental record.