SPRINGFIELD TECHNICAL COMMUNITY COLLEGE

ACADEMIC AFFAIRS

Course Number:	DHYG 300	Department:	Dental Hy	giene	
Course Title:	Periodontology	Semester:	Spring	Year:	1999

Objectives/Competencies

Course Objective	Competencies
1.Recognize normal periodontium and factors which may	Unit 1 Normal Periodontium
affect periodontal health.	1.Utilize the correct terminology when describing the
	gingiva.
	2.Identify gingival fibers by the correct name.
	3.Discuss the function of gingival fibers.
	4.Describe the characteristics of the alveolar mucosa.
	5.Describe clinically healthy gingiva including color, size,
	consistency, surface texture and bleeding tendencies.
	6.Describe the junctional epithelium including the
	histological characteristics location and function.
	7.Define dentogingival junction.
	8.Describe the blood, lymphatic and nerve supply to gingiva
	using the correct name.
	9.Define attachment apparatus.
	10.Describe each unit of the attachment apparatus and its
	function.
	11.Describe the relationship of the cementum to enamel at
	the cementonal junction and its clinical significance.

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Course Objective	Competencies
	 the primary etiological agent for inflammatory periodontal disease. (additional reference - Woodall) 9.Describe local factors which contribute to periodontal disease including anatomic factors, iatrogenic factors, calculus formation, traumatic factors and chemical injury. 10.Discuss the impact of benign and malignant lesions on the tissues of the periodontium.
3.Recognize the impact of systemic health on periodontal health.	 Unit 3 Systemic Contributing Factor 1.Discuss systemic factors which exacerbate periodontal disease by their effect on host resistance and host response. 2.Discuss how age alters the periodontium. 3.Describe genetic disorders which exert adverse effects on ora and periodontal tissues ie. papillo-lefevre syndrome, Downs syndrome, cyclic neutropenia, Chediah-Higashi syndrome, and leukocy pseudohypophosphatasia. 4.Discuss the effect of endocrine inbulous on the health of the periodontium including hyperparathyroidism. 5.Discuss the effect of sex hormones on the health of the periodontium. 6.Discuss the effect of diabetes mellitus on the health of the periodontium. 8.Discuss the relationship between nutritional deficiencies in Vitamin C, D and protein deficiencies. 9.Describe the role drugs play as secondary etiological

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	factors in periodontal disease. Give examples. 10.Describe clinical manifestations in the oral cavity which may be evidence of HIV infection.
4.Understand the effect of plaque in the oral cavity.	Unit 4 Pathogenesis of Plaque - Related Periodontal Disease
	1.Describe the clinical and histological features of gingivitis.
	2.Describe the clinical and histological characteristics of periodontitis.
	3. Define and classify pocket formation.
	4.Describe the difference between horizontal and vertical pockets.
	5.Describe the factors which contribute to the formation of infraboney pockets.
	6.List the classifications of periodontitis.
	7.Describe the characteristics of each classification.
	8.Define rapidly progressive periodontitis and describe its clinical and histological characteristics.
	9.Define necrotizing ulcerative gingiva periodontitis.
	10.Define refractory periodontitis.
	11.Discuss the pathogenisis of plaque related periodontal disease as impacted by the inflammatory and
	immunological responses.
	12.Describe the 4 histopathology stages of plaque related periodontal disease ie. initial lesion, early lesion, and advanced lesion.
	13.Describe the progression of periodontal disease as

Course Objective	Competencies
	episodic, cyclical. 14.Describe the spread of inflammation through periodontium.
5.Understand immunologic factors on the progress of periodontal disease.	 Unit 5 Immunology and Periodontal Disease 1.Discuss host specific and non specific defense responses in periodontal disease. 2.Describe the inflammatory process and discuss the good and harmful effects to the periodontal tissues.
	 3.Discuss the activation of the serum complement system in the inflammatory process. 4.Discuss the activation of the phagocytic cells in host response. 5.Explain the humoral immune response and cellular immune response as they relate to specific host responses. 6.Discuss host defense responses and potential for harmful effects in the periodontium.
6.Employ diagnostic means to formulate treatment planning.	 Unit 6 Diagnosis Prognosis and Treatment Planning 1.Define the importance of the diagnosis including periodontal chart, health survey, dental history, periodontal survey, radiographic survey and deposit survey. 2.Discuss factors impacting on prognosis and the significance of each. a.attitude of patient b.age of patient

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	c.number of remaining teeth
	d.systemic background
	e.malocclusion
	f.tooth morphology
	g.maintenance availability
	3.Discuss the factors and their significance as they impact
	on the prognosis of individual teeth.
	a.mobility
	b.teeth adjacent to edentulous areas
	c.location of remaining bone in relation to individual
	root surfaces
	d.relation to adjacent teeth
	e.attached level
	f.infra boney pockets
	g.furcation involvement
	h.caries, non vital teeth and root absorption
	i.developmental defects
	4.Discuss the importance of diagnosis and prognosis in
	treatment planning.
	5.Discuss the objectives of periodontal treatment as they
	impact on treatment planning.
	6.List 5 objectives to be achieved by good treatment planning.
	7.Describe the 4 phases of treatment planning.
	8.Discuss the steps involved in phase 1 (Bacterial Control) of the periodontal therapy.
	9.Discuss phase 2 (surgical therapy) of periodontal therapy.
	10.Discuss phase 3 (restorative treatment) of periodontal

Course Objective	Competencies
	therapy.
	11.Discuss phase 4 (maintenance) in periodontal therapy.
7.Be an effective educator when teaching plaque control	Unit 7 Plaque Control
techniques.	1.Discuss the importance of plaque control on the health of the oral cavity.
	2.Discuss the importance of the patient accepting responsibility and involvement in their treatment.
	3.Describe the differences between professional plaque control and patient bacterial control.
	4.Describe the problem areas in the oral cavity that will impact on the effectiveness of any method of plaque control.
	5.List 3 criteria that are critical for the patient to understand the significance of plaque control with disease control.
	6.Describe the importance of showing the patient existing
	disease in his/her mouth; use of pamphlets, illustrations and manichins as adjuncts in instruction.
	7.Discuss issues of safety and practicality in choosing
	plaque control procedures.
	8.Discuss the usefulness of disclosing solutions and which agents are most useful.
	9.Discuss tooth brush techniques in controlling plaque
	deposits.
	10.Discuss the types of manual toothbrushes acceptable for plaque control.
	11.Discuss the types of powered toothbrushes acceptable.
	12.Discuss the use of powered toothbrushes vs. manual

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	 toothbrushes. 13.Discuss the importance of proximal cleansing. 14.Describe aids which are used for proximal cleaning including floss, gauze, interdental cleaners, toothpicks. 15.Describe the benefits of oral irrigating devices and the medicaments used. 16.Describe aids for cleaning inaccessible areas such as single tufted toothbrushes. 17.Discuss the effectiveness of mouth rinses in reducing microbial populations. 18.Discuss the difference between 1st generation and 2nd generation mouth rinses. 19.Discuss the pros and cons of prebrushing mouth rinses. 20.Discuss 5 fundamental principles to apply in teaching plaque control. 21.Discuss the role of chemotherapy in plaque control. 22.Appreciate importance of plaque control for disease control.
8.Relate the role of instrumentation in the treatment of periodontal disease.	 Unit 8 Scaling and Root Planing 1.Define scaling. 2.Define root planing. 3.Define root detoxification of root deplaquing. 4.Discuss the rationale for tooth preparation. 5.Discuss the armamentarium utilized in scaling and tooth preparation. 6.Discuss new research on the effectiveness of ultrasonic and sonic instrumentation. (see Woodall text)

Course Objective	Competencies
	7.Discuss the use of periodontal probes.
	8.Describe the design and names of new probes used to
	assess periodontal pocket depths and attachment levels.
	9.Discuss the use and effectiveness of an explorer.
	10.Discuss the design and effectiveness of instruments used
	for supra gingival deposit removal, ie., scalers, hoes,
	chisels, and files.
	11.Discuss the design and effectiveness of instruments used
	for subgingival deposit removal. Include discussion of
	universal and area specific curets, gracey curets, mini and
	after five curets, langers curets.
	12.Describe basic principles of instrumentation.
	13.Define 2 basic strokes for scaling and root detoxification,
	ie. exploratory stroke, work stroke.
	14.Discuss the need for anesthesia when performing
	instrumentation on subgingival root surfaces.
	15.Discuss the mechanism by which sonic and ultrasonic
	scalers debride tooth surfaces.
	16.Discuss the fundamental differences between sonic and
	ultrasonic scalers.
	17.Discuss instruments used for polishing techniques, ie. handpieces, prophy jet.
	18.Discuss the principle of the prophy jet.
	19.Discuss the pros and cons of polishing the teeth.
9.Understand the stages of wound healing and impact of	Unit 9 Wound Healing
wound healing on recovery after therapy is initiated.	1.Define healing.
	2.Discuss the 6 stages of healing.

Course Objective	Competencies
	3.Describe the healing of a soft tissue wound.
	4.Discuss primary intention healing and secondary intention
	healing.
	5.Discuss how reattachment occurs.
	6.Discuss new attachment.
	7.Describe the difference between reattachment and new
	attachment.
	8.Discuss how open wounds heal.
	9.Define a flap.
	10.Discuss the difference between a free gingival flap and an
	elevated or dissected flap.
	11.Distinguish between a full thickness flap and a partial
	thickness flap or mucosal flap.
	12.Describe the healing process of a free flap.
	13.Discuss the importance of root detoxification on
	successful healing.
	14.Discuss the general principles of bone healing.
	15.Discuss the necessity for soft tissue to cover bone during
	the healing process of bone.
	16.Describe infraboney defects.
	17.Describe the process of healing an infraboney defect.
	18.Define osseous autografts.
	19.Discuss the success of autografts and various scenarios
	which occur in bone autografts.
	20.Discuss factors which impact in wound healing such as nutrition, systemic disorders, age, asepsis, healing rate.
	21.Describe the principles of wound healing that apply
	directly to the success or failure of periodontal surgery.

Course Objective	Competencies
10.Understand the need for periodontal surgery.	Unit 10 Principles of Periodontal Surgery
	1.Define the major goal of periodontal surgery.
	2. Discuss reasons for periodontal surgery including
	providing access, repair of the periodonteum, modify
	bone architecture, reduce periodontal pockets.
	3.Discuss the importance of patient presurgical consent and
	understanding of benefits and risks of any proposed procedures.
	4. Discuss contraindications for periodontal surgery
	including medical problems, inadequate plaque control,
	magnitude of existing destruction, incapable practitioner.
	5.Describe the methods of anxiety control.
	6.Discuss the need for premedication for certain systemic
	conditions prior to surgery.
	7.Discuss the use of broad spectrum antibiotics to suppress
	plaque and to improve bone healing after surgery.
	8.Discuss the necessity to maintain aseptic conditions during surgery.
	9.Calculate the maximum dosage of local anesthesia without
	vasoconstriction for a 120 lb. woman.
	10.Calculate the maximum dosage of local anesthesia with a
	vasoconstriction for a patient with and without
	cardiovascular problems.
	11.Discuss instrumentation and flap design in successful
	surgical procedures.
	12.Discuss 3 ways to control bleeding in the surgical site.
	13.Discuss the importance of wound closure in new
	attachment procedures and bone grafting.

Course Objective	Competencies
	 14.Describe the necessity for sutures. 15.Describe 4 types of suture patterns. 16.Describe the importance of periodontal dressings. 17.Discuss recent research on the efficacy of dressings. 18.Discuss the importance of post surgical instructions. 19.List the most common problems following surgery and the methods used to alleviate the problems.
11.Understand the role of antimicrobial therapy in the treatment plan.	 Unit 11 Non Surgical Antimicrobial Therapy 1.List indications for a nonsurgical chemotherapeutic approach to treating early and moderate chronic adult periodontitis. 2.List two objectives on nonsurgical chemotherapeutics. 3.List and discuss the 6 phases of a nonsurgical antimicrobial program. 4.Discuss the effectiveness of a nonsurgical antimicrobial therapy. 5.List the criteria for an effective antimicrobial agent. 6.Differentiate between 1st generation and 2nd generation antimicrobials.
12.Understand the value of gingivaplasty and gingivectomy.	 Unit 12 Management of Soft Tissue: Gingivaplasty and Gingivectomy 1.Define the chief purpose of a gingivaplasty. 2.Define the chief purpose of gingivectomy. 3.Describe the indications for a gingivaplasy. 4.Describe the technique for a gingivectomy. 5.Discuss the technique for a gingivaplasy.

Course Objective	Competencies
	6.Discuss the indications and contra indications for a gingivectomy.
13.Understand the value of gingival flaps.	Unit 13 Management of Soft Tissue: Gingival Flaps 1.Define periodontal pocket. 2.List 4 approaches to eliminate or reduce the pathologic
	 pocket. 3.Discuss procedures that must be accomplished during surgery to ensure new attachment on previously diseased root surfaces.
	4.List two new attachment techniques.5.Discuss the indications and objectives of subgingival curettage.
	6.Define gingival flap.
	7.Discuss the indications and contra indications for gingival flaps.
	8.Describe the objectives of gingival flaps.
	9.Describe the gingival flap procedure.
	10.Compare gingival flap procedures with exisional new attachment procedures (ENAP).
	11.Discuss criteria to use when choosing procedures for soft tissue treatment.
14.Understand the methods used to manage pockets.	Unit 14 Management of Soft Tissue: Flaps for Pocket Management
	1.List the objectives for flaps.
	2.List and differentiate between a full thickness flap, partial thickness flap.

Course Objective	Competencies
	 3.Differentiate between replaced flaps and apically positioned flaps. 4.Discuss techniques used for all flaps. 5.Define vertical relaxing incisors. 6.Discuss the necessity for vertical relaxing incisors. 7.Describe a palatal flap. 8.Describe three anatomic structures which compromise palatal flap.
15.Understand the importance of neurological procedures.	 Unit 15 Management of Soft Tissue: Neurological Procedures 1.Describe the need for mucogingival corrective surgery. 2.List the objectives of mucogingival corrective surgery. 3.Describe the different techniques used in microgingival corrective surgery, ie. laterally positioned flap, free gingival graft, coronally positioned flap. 4.Describe the indications for the particular flap procedure. 5.Discuss 2 factors that could influence the results of mucogingival procedures. 6.Describe the need for a frenectomy. 7.Describe the frenectomy technique. 8.Describe how to surgically manage a deep pocket in the retro molar area.
16.Understand the management of osseous defects.	 Unit 16 Management of Osseous Defects: Osseous Resective Surgery 1.Define an osseous defect. 2.Describe the procedure to diagnose and correctly identify

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	 the morphologic classification of an osseous defect. 3.Classify and describe infraboney wall defects. 4.List five methods used to resolve osseous defects. 5.Define biological width. 6.Describe the normal relationship of gingiva to the tooth and underlying bone in health. 7.Describe the relationship of gingiva to the tooth following surgery. 8.Define osteoplasty and ostectomy. 9.Discuss the indications contra indications of osseous resection. 10.Describe the technique of osseous resection. 11.Describe the effects of removing bone including the vesial effect and effect on mobility. 12.Describe the advantage of a lingual approach to osseous resection. 13.Discuss justification for a modified osseous reduction. 14.Discuss the advantage and disadvantages of osseous resection. 15.Appreciate the limitations of osseous resection.
17.Understand the use of bone grafts.	 Unit 17 Management of Osseous Defects: Bone Replacement Grafts 1.Describe indications for bone grafts based on patient selection and defect selection. 2.Describe the basic functions of all osseous grafting materials including osteoconduction, osteoinduction, and osteogenesis.

Describe free osseous autografts and how they are obtained. Define contiguous osseous autografts. Define allografts, alloplastic grafts, composite grafts. Discuss the advantages and limitations of allografts, alloplastic grafts and composite grafts. Discuss results of studies comparing bone replacement materials. Discuss the surgical procedure used in osseous defect surgery. Jnit 18 Management of Osseous Defects: Furcation Involvement Define furcation involvement. Describe how to diagnose furcation involvement. List 10 factors to consider in prognosticating teeth with furcations. Discuss the relationships between pulpal disease and periodontal disease. List 7 indications of pulpal disease which impact on periodontal disease. Describe the treatment procedure for Grade 1 and 2 furcation involvement including gingivoplasty, root preparation, osseous surgery. Discuss the treatment procedure for Grade 3 and 4 furcation involvement including furcation plasty, root resection and hemisections.

Course Objective	Competencies
	9.Discuss reliability of guided tissue regeneration for treatment of furcation.
19.Utilize additional therapeutic techniques in periodontal therapy.	 Unit 19: Management of Osseous Defects: Additional Techniques and Summary 1.Discuss the use of flap curettage and debridement to manage osseous defects. 2.Discuss the use of guided tissue regeneration to manage osseous defects.
	3.Discuss the use of selection extraction to manage osseous defects.
	4.Discuss the use of minor tooth movement to manage osseous defects.
	5.Discuss the factors which influence successful resolution of infraboney pockets.
	6.Describe the guidelines used in selecting treatment modalities for certain osseous defects.
20.Understand the importance of dental implants.	 Unit 20 Dental Implants 1.Discuss the history of implantology. 2.Define endosseous, subperiosteal and transosteal. 3.Differentiate between osteointegration and biointegration. 4.Discuss time factors in healing for the techniques utilized. 5.Discuss the factors which impact on bone/implant interface. 6.Discuss factors to consider in implant selection. 7.Describe the repair procedure for a failing implant.

Course Objective	Competencies
21.Understand the maintenance required for the preservation of dental implants.	 Unit 21 Dental Implants: Maintenance 1.Discuss which must be understood in maintaining an implant such as knowledge about the perimplant attachment apparatus, its susceptibility to disease and reinfection and specific microbiology. 2.Discuss the clinical parameters which must be accomplished in maintaining a dental implant, including probing, radiographs, tissue health, mobility/occlusion and patients care. 3.Describe the recommended instruments for debridement of dental implants. 4.Discuss the use of air powder abrasives on dental
22.Recognize periodontal emergencies which require immediate treatment.	 implants. Unit 22: Periodontal Emergencies 1.Describe the etiology, signs, symptoms and treatment for a.pericoronitis b.gingival abscess c.periodontal abscess d.acute periodontal abscess e.chemical and physical injuries 2.Discuss demographic characteristics of those infected with ANUG. 3.Classify ANUG as a communicable or non communicable disease. 4.Describe the etiology of ANUG. 5.Discuss the clinical characteristics of ANUG. 6.Discuss the necessity of a differential diagnosis to

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	eliminate other oral health disease entities similar to
	ANUG such as:
	a.primary acute gingivitis
	b.primary herpetic gingivalomatitis
	c.desquamative gingivitis
	d.infectious mononucleosis
	e.agranulocytosis
	f.secondary stage of syphilis
	7.Describe the recommended treatment protocol for ANUG.
	8.Discuss the etiology and treatment for hypersensitivity.
	9.Describe professionally applied sensitivity medicaments
	and patient applied commercial products.
	10.Define primary occlusal traumatism.
	11.Define secondary occlusal traumatism.
	12.Describe the signs and symptoms of occlusal traumatism.
	13.Discuss treatment modalities for occlusal trauma.
	14.Describe the etiology temporamandibular Joint Pain Dysfunction syndrome (TMJ).
	15.Describe the clinical syndrome associated with TMJ.
	16.Discuss TMJ treatments available.
	17.Discuss psychological considerations associated with TMJ.
	Unit 23 Periodontal Maintenance Therapy
	1.Discuss the rationale for a periodontal treatment
	maintenance program.
23.Formulate a treatment plan for maintenance therapy.	2.Discuss factors impacting on the recall interval.
	3.Describe the elements of a periodontal maintenance

Course Objective	Competencies
	program including a.examination phase b.decision phase c.treatment phase 4.Discuss research data on a 2 or 3 month maintenance recall.
24.Recognize mucocutaneous diseases of the periodontium.	Unit 24 Mucocutaneous Diseases of the Periodontium 1.Describe mucocutaneous diseases that may affect the periodontal soft tissues including lichen planus, cicatricial pemphigoid, pemphigus vulgaris, lupus eryhematous, erythema multiforme.
25.Relate to the importance of instruments and their effect on periodontal care.	 Unit 25 Instrument Sharpening 1.Discuss instrument design, methods to asses a sharp cutting edge and the characteristics of a sharpening stone as they apply to good periodontal therapy techniques.