# Table of Contents

## Fundamentals

1. **Introduction**
2. Periodontal Diseases
3. The Clinical Course of Untreated Periodontitis
4. Periodontitis—Concepts of Therapy

7. **Structural Biology**
8. Epithelial Attachment
9. Connective Tissue Attachment
10. Root Cementum
11. Osseous Support Apparatus
12. Blood Supply of the Periodontium
13. Innervation of the Periodontium
14. The Coordinated Functions of the Periodontal Structures

21. **Etiology and Pathogenesis**
22. Periodontitis—A Multifactorial Disease

23. **Microbiology**
24. Biofilm—Plaque Formation on Tooth and Root Surfaces
25. Supragingival Plaque
26. Natural Factors Favoring Plaque Retention
27. Iatrogenic Factors Favoring Plaque Retention
28. Subgingival Plaque
29. Bacterial Invasion Into Tissue?
30. Classification of Oral Microorganisms
31. Cell Walls of Gram-positive and Gram-negative Bacteria
32. Periodontitis—Classical or Opportunistic Infection?
33. Putative Periodontopathic Bacteria
34. Virulence Factors
35. Virulence Transfer
36. Marker Bacteria in Periodontitis
37. Pathogenic “Single Fighters” vs. Pathogenic Complexes?
38. Endotoxins—Lipopolysaccharide (LPS)
39. Interaction Between LPS and the Host

39. **Pathogenesis—Reactions and Defense Capabilities of the Host**
40. New Concepts of Pathogenesis
   - Therapeutic and Diagnostic Consequences
41. Host Response—Mechanisms and “Participants”
42. Non-specific, Congenital Immunity—the First Line of Defense
43. Specific, Acquired Immunity—the Second Line of Defense
44. Components of the Immune System—Summary
45. Interactions Between Non-specific and Specific Immunity
46. Regulatory Cell Surface Molecules: Markers, Receptors
47. Cytokines
48. Eicosanoids—Prostaglandins and Leukotrienes
49. Enzymatic Mechanisms—Matrix Metalloproteinases
50. Risk for Periodontitis—the Susceptible Host
51. Genetic Risk Factors—Diseases, Defects, Variations
52. Alterable Risk Factors, Modifying Co-Factors
53. Pathogenesis I—Initial Inflammatory Reactions
54. Pathogenesis II—Histology
55. Pathogenesis III—Molecular Biology
56. Pathogenesis III—Bone Resorption
57. Pathogenesis—Clinical Features: From Gingivitis to Periodontitis
58. Cyclic Course of Periodontitis
59. Periodontal Infections and Systemic Diseases
60. Etiology and Pathogenesis—Summary

67. **Indices**
68. Papilla Bleeding Index—PBI
69. Periodontal Indices
70. Community Periodontal Index of Treatment Needs—CPITN
71. Periodontal Screening and Recording—PSR

74. **Epidemiology**
75. Epidemiology of Gingivitis
76. Epidemiology of Periodontitis
77. WHO Studies

## Disease Entities and Diagnosis

77. **Types of Plaque-associated Periodontal Diseases**
78. Gingivitis—Periodontitis
79. Classification of Periodontal Diseases—Nomenclature

79. **Gingivitis**
80. Histopathology
81. Clinical Symptoms
82. Mild Gingivitis
83. Moderate Gingivitis
84. Severe Gingivitis

85. **Ulcerative Gingivitis/Periodontitis**
86. Histopathology
87. Clinical Symptoms—Bacteriology
88. Ulcerative Gingivitis (NUG)
89. Ulcerative Periodontitis (NUP)
90. Ulcerative Gingivoperiodontitis—Therapy

91. **Hormonally Modulated Gingivitis**
92. Severe Pregnancy Gingivitis—Gravid Epulis
93. Pregnancy Gingivitis and Phenytoin

95. **Periodontitis**
96. Pathobiology—The Most Important Forms of Periodontitis
97. Type II
98. Type III
99. Type IV
100. Intra-alveolar Defects, Infrabony Pockets
119 Oral Pathologic Alterations of Gingiva and Periodontium

120 Primarily Gingival Alterations (Type I B)
121 Gingival and Periodontal Alterations (Type IV A/B)
122 Phenytoin-Induced Gingival Overgrowth
124 Cyclosporine-induced Gingival Overgrowth
125 Gingival Hyperplasia Following Combined Drug Therapies
126 Benign Tumors—Epulis
127 Malignant Tumors
128 Gingivosis/Pemphigoid
129 Pemphigus vulgaris
130 Lichen planus: Reticular and Erosive
131 Leukoplakia, Pre-Cancerous Lesions—Oral Granulomatosis
132 Periodontitis with Systemic Diseases (Type IV)—Diabetes Type I and Type II
134 Periodontitis Associated with Systemic Diseases (Type IV B) Down Syndrome, Trisomy 21, "Mongolism"
136 Pre-pubertal Periodontitis Associated with Systemic Disease Papillon-Lefèvre Syndrome (Type IV B)
138 Papillon-Lefèvre Syndrome—"An Exception for Every Rule"

139 HIV Infection—AIDS
140 HIV Disease—Epidemiology
141 Classification and Clinical Course of HIV Disease
142 Oral Manifestations of HIV Disease
143 Bacterial Infections in HIV
144 Fungal Infections
145 Viral Infections
146 Neoplasms
147 HIV-Associated Lesions of Unknown Etiology
148 Invasion and Replication of the H1 Virus—Hurdles for Systemic Medical Treatment
149 Treatment of the HIV Patient—Pharmacologic Aspects
150 HIV—Treatment of Opportunistic Infections
150 Infection Prevention and Post-exposure Prevention—The Dental Team
151 Treatment of HIV-Periodontitis

155 Gingival Recession
156 Fenestration and Dehiscence of the Alveolar Bone
157 Clinical Symptoms
158 Recession—Localized
159 Recession—Generalized
160 Clinical Situations Resembling Recession
161 Recession—Diagnosis
162 Measurement of Recession (Jahnke)
162 Classification of Recession (Miller)
164 Consequences of Recession

165 Data Collection—Diagnosis—Prognosis
166 Data Collection—Examinations
167 General Patient Health History
167 Special Patient Health History
168 Classic Clinical Findings
169 Pocket Probing—Probing Depth, Clinical Attachment Loss
170 Pocket Probing—Periodontal Probes
171 Pocket Probing Depths—Interpretation of the Measured Values
172 Furcation Involvement—Horizontal and Vertical Furcation Invasion
174 Tooth Mobility—Functional Analysis
176 Radiography

178 Additional Diagnosis—Tests
179 Microbial Diagnosis—Test Methods
180 Microbial Pocket Diagnosis—Dark Field and Phase Contrast Microscopy
181 Microbial Pocket Diagnosis—Cultures
182 New Diagnostic Tests—Evaluation
183 Molecular Biological Tests
184 Bacterial Probe Test—Practical IAI PadoTest
185 DNA/RNA Probe Tests—IAI PadoTest 4-5
186 Immunological Tests—Antigen-Antibody Reactions
187 Enzymatic Bacterial Tests—BANA Test

188 Tests of the Host Response—Risks
189 Genetic Risk—Test for IL-1 Gene Polymorphism
190 IL-1 Gene Test—Technique, Evaluation
191 Risk Factor IL-1-positive Genotype—Additional Risk Factors
192 Poor Oral Hygiene as a Risk Factor—Bleeding on Probing (BOP)
193 Periodontal Risk Assessment—Individual Risk Profile
194 Diagnostic Data Collection—Periodontal Charting, I and II
195 Computer-Enhanced Charting—the Florida Probe System
196 Diagnosis
197 Prognosis

198 Prevention—Prophylaxis
198 Maintenance of Health and Prevention of Disease
198 Definition: Prevention—Prophylaxis
199 Prevention of Gingivitis and Periodontitis

Therapy

201 Treatment of Inflammatory Periodontal Diseases
202 Therapeutic Concepts and Techniques
203 Therapy—Problems
204 Periodontitis—Therapeutic Goals, Therapeutic Outcomes
205 Periodontal Wound Healing
206 Wound Healing and Regeneration—Possibilities
208 Treatment Planning—Sequence of Treatment
• Pre-phase—Systemic Health, Oral Hygiene
• Phase 1—Causal, Antimicrobial, Anti-infectious
• Phase 2—Surgical, Corrective
• Phase 3—Preventative, Anti-infectious, “Life Long”
210 General Course of Therapy—Individual Planning

211 Systemic Pre-phase
212 Evaluation—Can the Patient be Safely Treated?
213 Bacteremia—Endocarditis Prophylaxis
214 Dental Procedures Carrying the Risk of Bacteremia
215 Diabetes mellitus (DM)—Risk Factor for Periodontitis
216 Smoking—An Alterable Risk Factor
Emergency Treatment
Phase 1 Therapy
Case presentation—Motivation—Information
Initial Treatment 1—
Oral Hygiene by the Patient
Motivation—Gingival Bleeding
Plaque Disclosing Agents
Toothbrushes
Toothbrushing Technique
The Solo Technique—A Different Way to Brush Your Teeth
Electric Toothbrushes
Interdental Hygiene
Dentifrice
Chemical Plaque Control—“Soft Chemo” Prevention
Irrigators
Oral Hygiene for Halitosis—Tongue Cleansing
Possibilities, Successes and Limitations of Oral Hygiene
Initial Treatment 1—
Creating Conditions that Enhance Oral Hygiene
Supragingival Tooth Cleaning—Power-driven Instruments ...
... and their Use
Supragingival Tooth Cleaning—Hand Instruments, Prophy Pastes ...
... and their Use
Creation of Conditions that Enhance Oral Hygiene—Removal of iatrogenic Irritants
Correction of iatrogenic Irritants—Bridge Pontics
Removal of Natural Plaque-retentive Areas—Odontoplasty of Grooves, Depressions, Irregularities
Reduction of Natural Plaque-retentive Areas—Crowding:
Morphologic Odontoplasty
Treatment of Plaque-elicited Gingivitis
Gingivitis Treatment
Initial Treatment 2
“Closed”, Subgingival Therapy
Definitions
Non-Surgical, Anti-Infectious Therapy—Goals of Treatment
Antimicrobial Therapy—Combating the Reservoir
Root Planing—With or without Curettage?
Closed Therapy—Indication, Instrumentation
Hand Instruments for Scaling and Root Planing—Curettes
Powered Instruments for Debridement
Graicy Curettes—Areas of Use
Hand Instruments for Special Problems—Curettes
Practical Scaling Technique with Graicy Curettes—Systematic Approach
Instrument Sharpening
Manual Sharpening of Hand Instruments
Automated Sharpening
Subgingival Debridement—Closed Root Cleaning
Closed Therapy in Quadrant 1 ...
... and in the Rest of the Dentition
Limitations of Closed Therapy
Possibilities and Limitations of Closed Therapy