

Contents

| | |
|---|-----------|
| Preface..... | xi |
| CHAPTER 1 | |
| Introduction to Dental Terminology | 1 |
| Locate the Dental Word | 1 |
| Pronounce the Dental Word..... | 3 |
| Analyze the Structure of the Dental Word..... | 3 |
| Define the Meaning of the Dental Word | 16 |
| Pluralize the Dental Word..... | 16 |
| Use the Dental Word..... | 17 |
| Review Exercises | 17 |
| CHAPTER 2 | |
| Anatomy and Oral Structures..... | 21 |
| Anatomy of the Skull | 21 |
| Anatomical Features of the Skull..... | 24 |
| Landmarks and Features of the Mandible | 28 |
| Muscles of Mastication | 30 |
| Trigeminal Nerve Location and Functions..... | 31 |
| Blood Supply of the Cranium | 34 |
| Locations and Purposes of the Salivary Glands | 36 |
| Agents and Functions of the Lymphatic System..... | 38 |
| Important Structures in the Oral Cavity..... | 38 |
| Review Exercises | 41 |
| CHAPTER 3 | |
| Tooth Origin and Formation | 46 |
| Classification of the Human Dentition..... | 46 |
| Histological Stages of Tooth Development | 47 |
| Tissue Structure of the Teeth | 52 |
| Tissue Composition of the Periodontium | 55 |
| Odontology/Morphology | 57 |
| Tooth Surfaces | 61 |
| Review Exercises | 67 |

CHAPTER 4

| | |
|---|-----------|
| Practice and Facility Setups | 71 |
| Dental Professionals | 71 |
| Places of Employment | 74 |
| Dental Hand Instruments | 75 |
| Rotary Dental Instruments | 82 |
| Dental Facility Operative Equipment | 88 |
| Review Exercises | 89 |

CHAPTER 5

| | |
|---|-----------|
| Infection Control | 93 |
| Disease Conditions | 93 |
| Causes of Disease and Infection | 94 |
| Port of Entry for Disease | 96 |
| Immunity Factors | 97 |
| Disease Prevention | 98 |
| Agencies Concerned with Disease Control | 104 |
| Review Exercises | 104 |

CHAPTER 6

| | |
|---|------------|
| Emergency Care | 108 |
| Emergency-Prevention Techniques | 108 |
| Emergency-Prevention Equipment and Materials | 112 |
| Airway Obstruction and Resuscitation Protocol | 113 |
| Classification of Shock | 115 |
| Common Medical Emergencies | 116 |
| Common Dental Emergencies | 121 |
| Review Exercises | 122 |

CHAPTER 7

| | |
|--|------------|
| Examination and Prevention | 126 |
| Procedures Involved with the Initial Examination | 126 |
| Examination of the Oral Tissues | 128 |
| Examination of the Teeth | 132 |
| Charting Methods | 135 |
| Alginite Impressions | 138 |
| Home Preventive Techniques | 139 |
| Dental Facility Preventive Practices | 140 |
| Review Exercises | 141 |

CHAPTER 8

| | |
|---|------------|
| Pain Management and Pharmacology | 145 |
| Description of Pain and Methods to Relieve Distress | 145 |
| Local Anesthesia | 147 |
| General Anesthesia | 151 |
| Pharmacology and the Science of Drugs | 154 |
| Drug Interactions with Body Functions | 154 |
| Drug Forms and Methods of Distribution | 155 |
| Routes for Drug Administration | 156 |
| Drug Prescription Content | 157 |
| Classification and Types of Drug Agents | 159 |
| Review Exercises | 161 |

CHAPTER 9

| | |
|---|------------|
| Radiography | 165 |
| Definition and Production of X-Rays | 166 |
| Properties of Roentgen Rays | 168 |
| Measurement of Radiation Energy | 169 |
| Radiation Protection | 169 |
| Composition, Types, and Qualities of Dental Radiographs | 171 |
| Techniques for Exposing Radiographs | 177 |
| Radiographic Film Processing | 181 |
| Digital Image Retrieval and Enhancement | 181 |
| Mounting Radiographs | 182 |
| Assorted Radiographic Errors | 183 |
| 3D Radiology | 185 |
| Review Exercises | 186 |

CHAPTER 10

| | |
|--|------------|
| Tooth Restorations | 190 |
| Patient Preparation and Procedure Area | 190 |
| Isolation of the Operative Site | 191 |
| Preparation of the Restorative Site | 193 |
| Matrix Placement | 194 |
| Cements, Liners, and Base Materials | 196 |
| Restoration Placement Terminology | 197 |
| Restorative Materials | 198 |
| Finishing Methods | 199 |
| Review Exercises | 200 |

CHAPTER 11

| | |
|--|------------|
| Cosmetic Dentistry | 204 |
| Definition of Cosmetic Dentistry and Related Areas | 204 |
| Smile Makeover | 205 |
| Tooth Whitening | 206 |
| Tooth Bonding and Veneer Application | 207 |
| Cosmetic Tooth Restorations | 210 |
| Periodontal Tissue Surgery | 211 |
| Dental Implants | 213 |
| Accelerated Orthodontics | 214 |
| Review Exercises | 215 |

CHAPTER 12

| | |
|---|------------|
| Prosthodontics | 219 |
| Divisions in the Field of Prosthodontics | 219 |
| Types and Characteristics of Prosthodontic Materials | 220 |
| Fixed Prosthodontics | 221 |
| Removable Dental Prostheses | 223 |
| Procedures and Methods Used in the Prosthodontic Practice | 225 |
| Use of Implants in Prosthodontics | 229 |
| Miscellaneous Prosthodontic Services | 230 |
| Review Exercises | 232 |

CHAPTER 13

| | |
|--|------------|
| Endodontics | 236 |
| Science and Practice of Endodontic Dentistry | 236 |
| Diagnostic Procedures to Determine Pulpal Conditions | 237 |
| Endodontic Treatment Procedures | 239 |
| Endodontic Treatment Equipment and Materials | 240 |
| Surgical Endodontic Treatments | 246 |
| Endodontic Treatment of Traumatized Teeth | 247 |
| Tooth Replantation Procedures | 247 |
| Review Exercises | 248 |

CHAPTER 14

| | |
|---|------------|
| Oral and Maxillofacial Surgery | 252 |
| Duties and Functions of an Oral and Maxillofacial Surgeon | 253 |
| Instrumentation Related to Oral Surgery | 253 |
| Surgical Procedures Involved in Exodontia | 255 |
| Procedures Involved in Soft-Tissue Surgery | 259 |
| Procedures Involved in Minor Bone Surgery | 260 |
| Surgical Procedures Involved in Fracture Repair | 261 |
| Procedures Involved in Maxillofacial Surgery | 262 |
| Oral Surgery Procedures Involved with TMJ Dysfunction | 263 |
| Surgical Procedures Involved in Implantology | 265 |
| Oral Surgery Role in Esthetic Dentistry | 267 |
| Review Exercises | 268 |

CHAPTER 15

| | |
|--|------------|
| Orthodontics | 272 |
| Purpose of Orthodontic Practice and Malocclusion Classifications | 272 |
| Types and Methods of Orthodontic Treatment | 275 |
| Requirements for Diagnosis and Treatment Planning for Malocclusion | 278 |
| Intraoral Appliances and Auxiliaries Used in Orthodontics | 280 |
| Types and Purposes of Headgear and Traction Devices | 281 |
| Assorted and Specialized Appliances and Retainers | 283 |
| Instrumentation for the Orthodontic Practice | 284 |
| Review Exercises | 285 |

CHAPTER 16

| | |
|---|------------|
| Periodontics | 289 |
| Anatomy of the Periodontium | 289 |
| Etiology and Symptoms of Periodontal Diseases | 291 |
| Classification of Periodontal Diseases | 292 |
| Periodontal Examination and Evaluation | 294 |
| Measurement and Recording of Periodontal Conditions | 294 |
| Periodontal Treatment Methods | 296 |
| Periodontal Involvement with Dental Implants and Cosmetic Dentistry | 299 |
| Instrumentation for Periodontics | 300 |
| Review Exercises | 302 |

CHAPTER 17

| | |
|--|------------|
| Pediatric Dentistry | 306 |
| Scope of Pediatric Dentistry | 306 |
| Development and Growth Concerns of the Pediatric Dentition | 307 |

| | |
|--|------------|
| Maintenance and Preservation of the Pediatric Dentition | 309 |
| Restorative Dental Care for the Primary Dentition | 313 |
| Control and Sedation of the Child Patient | 314 |
| Treatment for Trauma and Abuse | 316 |
| Use of Dental Records for Patient Identification | 316 |
| Miscellaneous Child Health Conditions | 317 |
| Review Exercises | 318 |
| CHAPTER 18 | |
| Dental Laboratory Materials | 322 |
| Impression Materials | 322 |
| Gypsum Materials | 326 |
| Wax Materials | 327 |
| Dental Polymer Materials | 329 |
| Precious and Base Metals | 330 |
| Abrasive and Polishing Materials | 331 |
| Cement Materials | 332 |
| Characteristics of Dental Laboratory Materials | 333 |
| Review Exercises | 334 |
| CHAPTER 19 | |
| Dental Laboratory Procedures | 338 |
| Range and Scope of the Dental Laboratory | 338 |
| Dental Laboratory Equipment | 339 |
| Denture Construction Laboratory Procedures | 342 |
| Removable Partial Denture Construction Laboratory Procedures | 345 |
| Fixed Prosthodontic Dental Laboratory Procedures | 346 |
| Miscellaneous Dental Laboratory Procedures | 349 |
| CAD/CAM in the Dental Laboratory | 350 |
| Review Exercises | 352 |
| CHAPTER 20 | |
| Business Management Procedures | 356 |
| Office Communication Procedures | 356 |
| Appointment Control | 359 |
| Patient Records and Filing Procedures | 360 |
| Business Correspondence | 365 |
| Dental Insurance Terms | 367 |
| Financial Management | 371 |
| Inventory Control | 375 |
| Legal and Ethical Terms | 376 |
| Review Exercises | 377 |
| Appendix A: Word Elements | 381 |
| Appendix B: Answers to Chapter 1 Exercises | 389 |
| Glossary | 391 |
| Glossary of Acronyms | 429 |
| Glossary of Insurance Terms | 431 |
| Index | 439 |