

Oral and Maxillofacial Pathology

Fifth Edition

Brad W. Neville, DDS

Director of Oral and Maxillofacial Pathology

HCA South Atlantic Division
Trident Medical Center
Charleston, South Carolina

Distinguished University Professor Emeritus

James B. Edwards College of Dental Medicine
Medical University of South Carolina
Charleston, South Carolina

Douglas D. Damm, DDS

Emeritus Professor

Division of Oral & Maxillofacial Pathology
University of Kentucky College of Dentistry
Lexington, Kentucky

Oral & Maxillofacial Pathologist

Pathology & Cytology Laboratories
Lexington, Kentucky

Carl M. Allen, DDS, MSD

Emeritus Professor

Division of Oral and Maxillofacial Pathology and Radiology
College of Dentistry
The Ohio State University
Columbus, Ohio

Angela C. Chi, DMD

Professor

Woody L. Hunt School of Dental Medicine
Texas Tech University Health Sciences Center El Paso
El Paso, Texas



Contents

1 Developmental Defects of the Oral and Maxillofacial Region, 1

Orofacial Clefts, 1
Commissural Lip Pits, 4
Paramedian Lip Pits (Congenital Fistulas of the Lower Lip; Congenital Lip Pits), 4
Double Lip, 5
Fordyce Granules, 6
Leukoedema, 7
Microglossia (Hypoglossia), 8
Macroglossia, 8
Ankyloglossia (Tongue-Tie), 10
Lingual Thyroid, 10
Fissured Tongue (Scrotal Tongue; Lingua Plicata), 11
Hairy Tongue (Black Hairy Tongue; Coated Tongue), 12
Varicosities (Varices), 13
Caliber-Persistent Artery, 14
Lateral Soft Palate Fistulas, 15
Coronoid Hyperplasia, 15
Condylar Hyperplasia, 16
Condylar Hypoplasia, 17
Bifid Condyle, 19
Exostoses, 19
Torus Palatinus, 20
Torus Mandibularis, 21
Eagle Syndrome (Stylohyoid Syndrome; Stylocarotid Syndrome; Styalgia), 23
Stafne Defect (Stafne Bone Cyst; Lingual Mandibular Salivary Gland Depression; Latent Bone Cyst; Static Bone Cyst; Static Bone Defect; Lingual Cortical Mandibular Defect), 23
DEVELOPMENTAL CYSTS, 25
Palatal Cysts of the Newborn (Epstein's Pearls; Bohn's Nodules), 25
Nasolabial Cyst (Nasoalveolar Cyst; Klestadt Cyst), 26
"Globulomaxillary Cyst", 27
Nasopalatine Duct Cyst (Incisive Canal Cyst), 27
Median Palatal (Palatine) Cyst, 30
"Median Mandibular Cyst", 31
Follicular Cysts of the Skin, 31
Dermoid Cyst (Dysontogenic Cyst), 32
Thyroglossal Duct Cyst (Thyroglossal Tract Cyst), 33

Branchial Cleft Cyst (Cervical Lymphoepithelial Cyst), 35
Oral Lymphoepithelial Cyst, 36
OTHER RARE DEVELOPMENTAL ANOMALIES, 37
Hemihyperplasia (Hemihypertrophy), 37
Progressive Hemifacial Atrophy (Progressive Facial Hemiatrophy; Romberg Syndrome; Parry-Romberg Syndrome), 38
Segmental Odontomaxillary Dysplasia (Hemimaxillofacial Dysplasia), 39
Crouzon Syndrome (Craniofacial Dysostosis), 40
Apert Syndrome (Acrocephalosyndactyly), 41
Mandibulofacial Dysostosis (Treacher Collins Syndrome; Franceschetti-Zwahlen-Klein Syndrome), 43

2 Abnormalities of Teeth, 51

General Considerations, 51
ENVIRONMENTAL ALTERATIONS OF TEETH, 51
Environmental Effects on Tooth Structure Development, 51
Postdevelopmental Loss of Tooth Structure, 58
Environmental Discoloration of Teeth, 67
Localized Disturbances in Eruption, 71
DEVELOPMENTAL ALTERATIONS OF TEETH, 74
Developmental Alterations in the Number of Teeth, 75
Developmental Alterations in the Size of Teeth, 81
Developmental Alterations in the Shape of Teeth, 82
Developmental Alterations in the Structure of Teeth, 98

3 Pulpal and Periapical Disease, 117

Pulpitis, 117
Secondary and Tertiary Dentin, 119
Pulpal Calcifications, 121
Periapical Granuloma (Chronic Apical Periodontitis), 123
Periapical Cyst (Radicular Cyst; Apical Periodontal Cyst), 126
Periapical Abscess, 129

Cellulitis, 132
Osteomyelitis, 134
Diffuse Sclerosing Osteomyelitis, 137
Chronic Nonbacterial Osteomyelitis, 138
Condensing Osteitis (Focal Sclerosing Osteomyelitis), 141
Osteomyelitis With Proliferative Periostitis (Periostitis Ossificans, Ossifying Periostitis), 141
Alveolar Osteitis (Dry Socket; Fibrinolytic Alveolitis), 143

4 Periodontal Diseases, 147

Gingivitis, 147
Spongiotic Gingival Hyperplasia (Spongiotic Gingivitis), 150
Necrotizing Gingivitis (Necrotizing Ulcerative Gingivitis, Vincent Infection; Trench Mouth), 151
Plasma Cell Gingivitis (Atypical Gingivostomatitis; Allergic Gingivostomatitis), 152
Foreign Body Gingivitis, 154
Desquamative Gingivitis, 155
Drug-Related Gingival Hyperplasia (Drug-Related Gingival Overgrowth), 156
Gingival Fibromatosis (Fibromatosis Gingivae; Elephantiasis Gingivae), 158
Periodontitis, 160
Peri-Implant Diseases, 167
Papillon-Lefèvre Syndrome, 167

5 Bacterial Infections, 172

Impetigo, 172
Erysipelas, 173
Streptococcal Tonsillitis and Pharyngitis, 174
Scarlet Fever (Scarlatina), 175
Tonsillar Plugs and Tonsillolithiasis, 176
Diphtheria, 177
Syphilis (Lues), 179
Gonorrhea, 184
Tuberculosis, 185
Leprosy (Hansen Disease), 188
Noma (Cancrum Oris; Orofacial Gangrene; Gangrenous Stomatitis; Necrotizing Stomatitis), 191
Actinomycosis, 192
Cat-Scratch Disease, 194
Rhinosinusitis (Sinusitis), 196

6 Fungal and Protozoal Diseases, 201

Candidiasis, 201
Histoplasmosis, 212
Blastomycosis, 214
Paracoccidioidomycosis (South American Blastomycosis), 216

Coccidioidomycosis (San Joaquin Valley Fever; Valley Fever; Cocci), 217
Cryptococcosis, 218
Mucormycosis (Zygomycosis; Phycomycosis), 219
Aspergillosis, 221
Toxoplasmosis, 222
Leishmaniasis, 224

7 Viral Infections, 229

Human Herpesviruses, 229
Herpes Simplex Virus, 229
Varicella (Chickenpox), 235
Herpes Zoster (Shingles), 238
Infectious Mononucleosis (Mono; Glandular Fever; "Kissing Disease"), 241
Cytomegalovirus, 242
Enteroviruses, 244
Measles (Rubeola), 246
Rubella (German Measles), 248
Mumps (Epidemic Parotitis), 249
Human Immunodeficiency Virus and Acquired Immunodeficiency Syndrome, 250
Coronavirus Disease 2019, 265

8 Physical and Chemical Injuries, 272

Linea Alba, 272
Morsicatio Mucosae Oris (Chronic Mucosal Chewing), 272
Traumatic Ulcerations, 273
Electrical and Thermal Burns, 276
Chemical Injuries of the Oral Mucosa, 278
Noninfectious Oral Complications of Antineoplastic Therapy, 280
Medication-Related Osteonecrosis of the Jaw (Bisphosphonate-Related Osteonecrosis; Antiresorptive-Related Osteonecrosis), 286
Orofacial Complications of Drug Abuse, 292
Anesthetic Necrosis, 294
Exfoliative Cheilitis, 294
Submucosal Hemorrhage, 296
Oral Trauma From Sexual Practices, 297
Amalgam Tattoo and Other Localized Exogenous Pigmentations, 298
Oral Piercings and Other Body Modifications, 300
Oral Lesions Associated With Cosmetic Fillers, 302
Systemic Metallic Intoxication, 304
Smoker's Melanosis, 306
Drug-Related Discolorations of the Oral Mucosa, 307
Reactive Osseous and Chondromatous Metaplasia (Cutright Lesion), 309
Oral Ulceration With Bone Sequestration (Spontaneous Sequestration; Traumatic Sequestration), 310
Antral Pseudocysts, 310

True Cysts of the Sinuses (Sinus Mucocele; Surgical Ciliated Cyst; Traumatic Ciliated Cyst; Postoperative Maxillary Cyst; Retention Cyst), 312
Cervicofacial Emphysema, 314
Myospherulosis, 315

9 Allergies and Immunologic Diseases, 321

Transient Lingual Papillitis, 321
Recurrent Aphthous Stomatitis (Recurrent Aphthous Ulcerations; Canker Sores), 321
Behçet Disease (Behçet Syndrome; Adamantiades Syndrome; Silk Road Disease), 326
Sarcoidosis, 328
Orofacial Granulomatosis, 330
Granulomatosis With Polyangiitis (Wegener Granulomatosis), 333
Lichenoid and Granulomatous Stomatitis, 336
Mucosal Reactions to Systemic Drug Administration, 337
Allergic Contact Stomatitis (Stomatitis Venenata), 342
Perioral Dermatitis (Periorificial Dermatitis), 343
Contact Stomatitis From Artificial Cinnamon Flavoring, 344
Lichenoid Contact Reaction From Dental Restorative Materials, 346
Angioedema (Angioneurotic Edema; Quincke Disease), 348

10 Epithelial Pathology, 354

Benign Epithelial Lesions Associated With Human Papillomavirus, 354
Molluscum Contagiosum, 364
Verruciform Xanthoma, 365
Seborrheic Keratosis, 366
Sebaceous Hyperplasia, 368
Ephelis (Freckle), 368
Actinic Lentigo (Lentigo Solaris; Solar Lentigo; Age Spot; Liver Spot; Senile Lentigo), 369
Lentigo Simplex, 370
Melasma (Mask of Pregnancy; Chloasma), 371
Oral Melanotic Macule (Focal Melanosis), 372
Oral Melanoacanthoma (Melanoacanthosis), 373
Melanocytic Nevus (Nevocellular Nevus; Mole), 374
Acquired Melanocytic Nevus, 375
Congenital Melanocytic Nevus, 379
Oral Potentially Malignant Disorders, 380
Leukoplakia (Leukokeratosis; Erythroleukoplakia), 381
Erythroplakia (Erythroplasia; Erythroplasia of Queyrat), 390
Smokeless Tobacco Use and Smokeless Tobacco Keratosis (Snuff Pouch; Snuff Dipper's Lesion; Tobacco Pouch Keratosis; Spit Tobacco Keratosis), 391

Oral Submucous Fibrosis, 393
Actinic Cheilosis (Actinic Cheilitis; Solar Cheilosis), 395
Actinic Keratosis (Solar Keratosis), 396
Nicotine Stomatitis (Nicotine Palatinus; Smoker's Palate), 397
Keratoacanthoma ("Self-Healing" Carcinoma; Pseudocarcinoma; Keratocarcinoma; Squamous Cell Carcinoma, Keratoacanthoma Type), 398
Squamous Cell Carcinoma, 401
Verrucous Carcinoma (Snuff Dipper's Cancer; Ackerman's Tumor), 421
Spindle Cell Carcinoma (Sarcomatoid Squamous Cell Carcinoma; Polypoid Squamous Cell Carcinoma; Carcinosarcoma; Pseudosarcoma), 423
Adenosquamous Carcinoma, 424
Basaloid Squamous Carcinoma (Basaloid Squamous Cell Carcinoma), 425
Carcinoma of the Maxillary Sinus, 426
Sinonasal Undifferentiated Carcinoma, 426
Nasopharyngeal Carcinoma, 428
Basal Cell Carcinoma (Basal Cell Epithelioma; Rodent Ulcer), 430
Merkel Cell Carcinoma (Merkel Cell Tumor; Primary Neuroendocrine Carcinoma of Skin; Small Cell Carcinoma of Skin; Trabecular Carcinoma of Skin; Toker Tumor), 432
Melanoma (Malignant Melanoma; Melanocarcinoma), 434

11 Salivary Gland Pathology, 460

Salivary Gland Aplasia/Hypoplasia, 460
Mucocele (Mucus Extravasation Phenomenon; Mucus Escape Reaction), 460
Ranula, 462
Salivary Duct Cyst (Mucus Retention Cyst; Mucus Duct Cyst; Sialocyst), 463
Sialolithiasis (Salivary Calculi; Salivary Stones), 465
Sialadenitis, 467
Cheilitis Glandularis, 468
Sialorrhea (Ptyalism), 469
Xerostomia, 470
IgG4-Related Disease, 471
Sjögren Syndrome, 472
Sialadenosis (Sialosis), 476
Adenomatoid Hyperplasia of the Minor Salivary Glands, 477
Necrotizing Sialometaplasia, 477
SALIVARY GLAND TUMORS, 479
General Considerations, 479
Pleomorphic Adenoma (Benign Mixed Tumor), 483
Oncocytoma (Oxyphilic Adenoma), 487

Oncocytosis (Multinodular Oncocytic Hyperplasia), 488
 Warthin Tumor (Papillary Cystadenoma Lymphomatosum), 488
 Monomorphic Adenoma, 490
 Canalicular Adenoma, 490
 Basal Cell Adenoma, 491
 Ductal Papillomas (Sialadenoma Papilliferum; Intraductal Papilloma; Inverted Ductal Papilloma), 492
 Mucoepidermoid Carcinoma, 493
 Intraosseous Mucoepidermoid Carcinoma (Central Mucoepidermoid Carcinoma), 496
 Acinic Cell Carcinoma, 497
 Secretory Carcinoma (Mammary Analogue Secretory Carcinoma), 498
 Malignant Mixed Tumors (Carcinoma Ex Pleomorphic Adenoma; Carcinoma Ex Mixed Tumor; Carcinosarcoma; Metastasizing Mixed Tumor), 499
 Adenoid Cystic Carcinoma, 501
 Polymorphous Adenocarcinoma (Polymorphous Low-Grade Adenocarcinoma), 503
 Salivary Adenocarcinoma, Not Otherwise Specified, 505

12 Soft Tissue Tumors, 514

Fibroma (Irritation Fibroma; Traumatic Fibroma; Focal Fibrous Hyperplasia; Fibrous Nodule), 514
 Giant Cell Fibroma, 514
 Epulis Fissuratum (Inflammatory Fibrous Hyperplasia; Denture Injury Tumor; Denture Epulis), 517
 Inflammatory Papillary Hyperplasia (Denture Papillomatosis), 519
 Fibrous Histiocytoma, 520
 Solitary Fibrous Tumor, 521
 Fibromatosis (Desmoid-Type Fibromatosis), 523
 Myofibroma (Myofibromatosis), 523
 Oral Focal Mucinosi s, 524
 Pyogenic Granuloma (Lobular Capillary Hemangioma), 525
 Peripheral Giant Cell Granuloma, 527
 Peripheral Ossifying Fibroma (Ossifying Fibroid Epulis; Peripheral Fibroma with Calcification), 529
 Lipoma, 530
 Traumatic Neuroma (Amputation Neuroma), 532
 Palisaded Encapsulated Neuroma (Solitary Circumscribed Neuroma), 533
 Schwannoma (Neurilemoma), 534
 Neurofibroma, 534
 Neurofibromatosis Type I (von Recklinghausen Disease of the Skin), 537
 Multiple Endocrine Neoplasia Type 2B, 540
 Melanotic Neuroectodermal Tumor of Infancy, 541

Paraganglioma (Carotid Body Tumor; Chemodectoma; Glomus Jugulare Tumor; Glomus Tympanicum Tumor), 543
 Granular Cell Tumor, 544
 Congenital Epulis (Congenital Epulis of the Newborn; Congenital Granular Cell Lesion), 546
 Hemangioma and Vascular Malformations, 547
 Sturge-Weber Syndrome (Encephalotrigeminal Angiomatosis; Sturge-Weber Angiomatosis), 551
 Nasopharyngeal Angiofibroma, 552
 Lymphatic Malformations (Lymphangioma; Cystic Hygroma), 553
 Leiomyoma, 555
 Rhabdomyoma, 557
 Ectomesenchymal Chondromyxoid Tumor, 558
 Osseous and Cartilaginous Choristomas, 559
 Fibrosarcoma, 559
 Undifferentiated Pleomorphic Sarcoma (Malignant Fibrous Histiocytoma), 560
 Liposarcoma, 561
 Malignant Peripheral Nerve Sheath Tumor (Malignant Schwannoma; Neurofibrosarcoma; Neurogenic Sarcoma), 562
 Olfactory Neuroblastoma (Esthesioneuroblastoma), 562
 Angiosarcoma, 563
 Kaposi Sarcoma, 564
 Leiomyosarcoma, 565
 Rhabdomyosarcoma, 566
 Synovial Sarcoma, 567
 Alveolar Soft-Part Sarcoma, 568
 Metastases to the Oral Soft Tissues, 569

13 Hematologic Disorders, 578

Lymphoid Hyperplasia, 578
 Hemophilia, 579
 Plasminogen Deficiency (Ligneous Conjunctivitis; Hypoplasminogenemia), 581
 Anemia, 582
 Sickle Cell Anemia, 583
 Thalassemia, 585
 Aplastic Anemia, 586
 Neutropenia, 587
 Agranulocytosis, 589
 Cyclic Neutropenia (Cyclic Hematopoiesis), 589
 Thrombocytopenia, 590
 Polycythemia Vera (Primary Polycythemia; Polycythemia Rubra Vera; Primary Acquired Erythrocytosis), 592
 Leukemia, 593
 Langerhans Cell Histiocytosis (Histiocytosis X; Langerhans Cell Disease; Idiopathic Histiocytosis; Eosinophilic Granuloma; Langerhans Cell Granuloma; Langerhans Cell Granulomatosis), 596

Hodgkin Lymphoma (Hodgkin Disease), 598
 Non-Hodgkin Lymphoma, 600
 Mycosis Fungoides (Cutaneous T-Cell Lymphoma), 604
 Burkitt Lymphoma, 606
 Extranodal NK/T-Cell Lymphoma, Nasal-Type (Angiocentric T-Cell Lymphoma; Midline Lethal Granuloma; Idiopathic Midline Destructive Disease; Polymorphic Reticulosis; Midline Malignant Reticulosis; Angiocentric Immunoproliferative Lesion), 607
 Multiple Myeloma, 609
 Plasmacytoma, 611

14 Bone Pathology, 618

Osteogenesis Imperfecta ("Brittle Bone Disease"), 618
 Osteopetrosis (Albers-Schönberg Disease; Marble Bone Disease), 620
 Cleidocranial Dysplasia (Cleidocranial Dysostosis; Scheuthauer-Marie-Sainton syndrome; Marie-Sainton Disease), 623
 Focal Osteoporotic Marrow Defect, 625
 Idiopathic Osteosclerosis, 626
 Massive Osteolysis (Gorham Disease; Gorham-Stout Syndrome; Vanishing Bone Disease; Phantom Bone Disease; Idiopathic Osteolysis), 627
 Paget Disease of Bone (Osteitis Deformans), 628
 Central Giant Cell Granuloma (Giant Cell Lesion; Giant Cell Tumor), 631
 Giant Cell Tumor ("True Giant Cell Tumor"), 633
 Cherubism, 634
 Simple Bone Cyst (Traumatic Bone Cyst; Hemorrhagic Bone Cyst; Solitary Bone Cyst; Idiopathic Bone Cavity; Unicameral Bone Cyst), 636
 Aneurysmal Bone Cyst, 638
 Central Xanthoma of the Jaws (Primary Xanthoma of Bone; Primary Intraosseous Xanthoma; Fibrous Xanthoma of Bone; Fibroxanthoma of Bone), 640
FIBRO-OSSEOUS LESIONS OF THE JAWS, 641
 Fibrous Dysplasia, 641
 Cemento-Osseous Dysplasias (Osseous Dysplasia), 645
 Familial Gigantiform Cementoma (Familial Expansive Osseous Dysplasia), 650
 Cemento-ossifying Fibroma (Conventional Ossifying Fibroma; Ossifying Fibroma; Cementifying Fibroma), 652
 Juvenile Ossifying Fibroma (Juvenile Active Ossifying Fibroma; Juvenile Aggressive Ossifying Fibroma; Aggressive Ossifying Fibroma), 653

Osteoma, 655
 Gardner Syndrome, 656
 Osteoblastoma (Giant Osteoid Osteoma) and Osteoid Osteoma, 658
 Cementoblastoma (True Cementoma), 659
 Chondroma, 661
 Chondromyxoid Fibroma, 661
 Synovial Chondromatosis (Synovial Chondrometaplasia; Synovial Osteochondromatosis), 662
 Desmoplastic Fibroma, 663
 Osteosarcoma (Osteogenic Sarcoma), 665
 Chondrosarcoma, 669
 Ewing Sarcoma, 671
 Metastatic Tumors to the Jaws, 673

15 Odontogenic Cysts and Tumors, 685

ODONTOGENIC CYSTS, 685
 Dentigerous Cyst (Follicular Cyst), 685
 Eruption Cyst (Eruption Hematoma), 688
 Primordial Cyst, 689
 Odontogenic Keratocyst (Keratocystic Odontogenic Tumor), 689
 Orthokeratinized Odontogenic Cyst, 693
 Nevroid Basal Cell Carcinoma Syndrome (Gorlin Syndrome), 694
 Gingival (Alveolar) Cyst of the Newborn, 697
 Gingival Cyst of the Adult, 698
 Lateral Periodontal Cyst (Botryoid Odontogenic Cyst), 699
 Calcifying Odontogenic Cyst (Calcifying Cystic Odontogenic Tumor; Gorlin Cyst; Dentinogenic Ghost Cell Tumor; Ghost Cell Odontogenic Carcinoma), 701
 Glandular Odontogenic Cyst (Sialo-Odontogenic Cyst), 703
 Buccal Bifurcation Cyst (Inflammatory Collateral Cyst), 704
 Carcinoma Arising in Odontogenic Cysts, 705
ODONTOGENIC TUMORS, 707
TUMORS OF ODONTOGENIC EPITHELIUM, 707
 Ameloblastoma, 707
 Malignant Ameloblastoma and Ameloblastic Carcinoma, 716
 Clear Cell Odontogenic Carcinoma (Clear Cell Odontogenic Tumor), 717
 Adenomatoid Odontogenic Tumor, 718
 Calcifying Epithelial Odontogenic Tumor (Pindborg Tumor), 720
 Squamous Odontogenic Tumor, 723
MIXED ODONTOGENIC TUMORS, 724
 Ameloblastic Fibroma, 724
 Ameloblastic Fibro-Odontoma, 725
 Ameloblastic Fibrosarcoma (Ameloblastic Sarcoma), 727

Odontoameloblastoma, 728
Odontoma, 729
Primordial Odontogenic Tumor, 731

TUMORS OF ODONTOGENIC

ECTOMESENCHYME, 731

Central Odontogenic Fibroma, 731
Peripheral Odontogenic Fibroma, 733
Granular Cell Odontogenic Tumor (Granular Cell
Odontogenic Fibroma), 734
Odontogenic Myxoma, 735
Cementoblastoma ("True Cementoma"), 737

16 Dermatologic Diseases, 747

Ectodermal Dysplasia, 747
White Sponge Nevus (Cannon Disease), 748
Hereditary Benign Intraepithelial Dyskeratosis
(Witkop-Von Sallmann Syndrome), 749
Pachyonychia Congenita (Jadassohn-Lewandowsky
Type; Jackson-Lawler Type), 750
Dyskeratosis Congenita (Cole-Engman Syndrome;
Zinsser-Cole-Engman Syndrome), 752
Xeroderma Pigmentosum, 753
Hereditary Mucoepithelial Dysplasia, 754
Incontinentia Pigmenti (Bloch-Sulzberger
Syndrome), 755
Darier Disease (Keratosis Follicularis; Dyskeratosis
Follicularis; Darier-White Disease), 756
Warty Dyskeratoma (Isolated Darier Disease; Isolated
Dyskeratosis Follicularis; Focal Acantholytic
Dyskeratosis; Follicular Dyskeratoma), 757
Peutz-Jeghers Syndrome, 758
Hereditary Hemorrhagic Telangiectasia
(Osler-Weber-Rendu Syndrome), 759
Ehlers-Danlos Syndromes, 760
Tuberous Sclerosis (Epiloia; Bourneville-Pringle
Syndrome), 762
Multiple Hamartoma Syndrome (Cowden Syndrome;
PTEN Hamartoma-Tumor Syndrome), 765
Epidermolysis Bullosa, 766
Pemphigus, 769
Paraneoplastic Pemphigus (Neoplasia-Induced
Pemphigus; Paraneoplastic Autoimmune
Multiorgan Syndrome), 774
Mucous Membrane Pemphigoid (Cicatricial
Pemphigoid; Benign Mucous Membrane
Pemphigoid), 775
Bullous Pemphigoid, 779
Erythema Multiforme, 781
Stevens-Johnson Syndrome and Toxic Epidermal
Necrolysis, 783
Erythema Migrans (Geographic Tongue; Benign
Migratory Glossitis; Wandering Rash of the
Tongue; Erythema Areata Migrans; Stomatitis
Areata Migrans), 784
Reactive Arthritis (Reiter
Syndrome), 786

Lichen Planus, 787
Chronic Ulcerative
Stomatitis, 792
Graft-Versus-Host Disease, 794
Psoriasis, 796
Lupus Erythematosus, 798
Systemic Sclerosis (Progressive Systemic Sclerosis;
Scleroderma; Diffuse Cutaneous Systemic
Sclerosis; Hide-Bound Disease), 801
CREST Syndrome (Acrosclerosis; Limited
Scleroderma; Limited Cutaneous Systemic
Sclerosis), 805
Acanthosis Nigricans, 806

17 Oral Manifestations of Systemic Diseases, 819

Mucopolysaccharidosis, 819
Lipid Reticuloendotheliosis, 821
Lipoid Proteinosis (Hyalinosis Cutis Et Mucosae;
Urbach-Wiethe Syndrome), 822
Jaundice (Icterus), 823
Amyloidosis, 824
Xanthelasma (Xanthelasma Palpebrarum), 827
Vitamin Deficiency, 827
Iron-Deficiency Anemia, 830
Plummer-Vinson Syndrome (Paterson-Kelly
Syndrome; Sideropenic Dysphagia), 830
Pernicious Anemia, 831
Pituitary Dwarfism, 833
Gigantism, 834
Acromegaly, 834
Hypothyroidism (Cretinism; Myxedema), 835
Hyperthyroidism (Thyrotoxicosis; Graves
Disease), 837
Hypoparathyroidism, 838
Pseudohypoparathyroidism (Albright Hereditary
Osteodystrophy; Acrodysostosis), 839
Hyperparathyroidism, 840
Hypocortisolism (Cushing Syndrome), 842
Addison Disease (Hypoadrenocorticism), 843
Diabetes Mellitus, 844
Hypophosphatasia, 847
Vitamin D-Resistant Rickets (Hereditary
Hypophosphatemia; Familial Hypophosphatemic
Rickets), 848
Crohn Disease (Regional Ileitis; Regional
Enteritis), 850
Pyostomatitis Vegetans, 851
Uremic Stomatitis, 852

18 Facial Pain and Neuromuscular Diseases, 861

N. Lyn Wilson Westmark
Bell Palsy (Idiopathic Seventh Nerve Paralysis;
Idiopathic Facial Paralysis), 861

Frey Syndrome (Auriculotemporal Syndrome;
Gustatory Sweating and Flushing), 862

HEAD AND NECK PAIN, 863

Trigeminal Neuralgia (Tic Douloureux; Tic), 864

Glossopharyngeal Neuralgia (Vagoglossopharyngeal
Neuralgia), 866

Giant Cell Arteritis (Temporal Arteritis;
Granulomatous Arteritis), 867

Burning Mouth Disorder (Burning Mouth Syndrome;
Oral Dysesthesia; Oral Sensory Neuropathy;
Stomatopyrosis; Stomatodynia; Glossopyrosis;
Glossodynia; Burning Tongue Syndrome; Burning
Mouth Syndrome), 868

Dysgeusia and Hypogeusia (Phantom Taste;
Distorted Taste), 869

Osteoarthritis (Degenerative Arthritis; Degenerative
Joint Disease), 871

Rheumatoid Arthritis, 872

Temporomandibular Disorders, 874

19 Forensic Dentistry, 881

Edward E. Herschaft

Record Management, 881

Identification, 883

Bite Pattern Evidence, 899

Human Abuse, 907

Dentists as Expert Witnesses, 910

Summary, 911

**Appendix: Differential Diagnosis of Oral and
Maxillofacial Diseases, 914**

Index, 936